

# 2016

# ANNUAL REPORT

TO THE BOARD OF FORESTRY AND FIRE PROTECTION



## STRATEGIC FIRE PLAN ACCOMPLISHMENTS

"A vision for a natural environment that is more resilient and man-made assets which are resistant to the occurrence and effects of wildland fire through local, state, federal and private partnerships."



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## **II. Background**

2016 marks the sixth year of implementation of the 2010 Strategic Fire Plan (Plan). This report is therefore the sixth time CAL FIRE has provided an annual update on accomplishments of the Plan to the California Board of Forestry and Fire Protection (Board). The level of collaboration between CAL FIRE and the Board continues to achieve increasing levels of success in accomplishing the seven goals established within the Plan. Neither CAL FIRE nor the Board can achieve this level of success alone. There are many cooperating partners throughout the state who contribute to the overall success of this Plan.

The relentless impacts of the ongoing drought, coupled with associated impacts of climate change and tree mortality point to an ever-worsening situation of forests and watersheds throughout the state. Fire ignitions and acreage continue to increase to levels above California's five year averages, accompanied by an unacceptably high number of structures and infrastructure damaged and destroyed by these fires. One thing remains certain – there does not appear to be an immediate end to these challenges, and the Plan continues to gain strength in providing strong guidance in addressing the wildfire problem in California.

The foundation of the Plan is built upon seven goals and their associated objectives. Collectively, these goals and objectives provide a statewide framework to address the protection of lives, property and natural resources from wildland fire and improve environmental resilience to wildfires. The Plan provides overall statewide goals and objectives, but it is the individual Unit Fire Plans that provide specific details on how these will be achieved through cooperative efforts with Fire Safe Councils, Firewise Communities, and other local partners.

## **III. Detailed Statewide Report on Accomplishments by Goal**

This sixth report on accomplishments of the Plan's goals and objectives indicate improving successes. The seven goals with their associated objectives have proven to be a successful platform toward overall prevention efforts to protect lives, property, and the natural resources from wildfire. Each one has played a critical role in achieving the overall Vision of the Plan, which is to create a more resilient natural environment, and strive for man-made assets that are more resistant to the occurrence and effects of wildland fire through local, state, federal and private partnerships. A testament to the success of the Plan is how these seven goals have begun to merge and overlap. The following narrative outlines specific achievements in each of the seven goals, yet each of these achievements touch several goals simultaneously. The Plan continues to provide an even stronger roadmap for California to follow in dealing with its wildfire and forest health challenges.

**Goal 1: Identify and evaluate wildland fire hazards and recognize life, property and natural resource assets at risk, including watershed, habitat, social and other values of functioning ecosystems. Facilitate the sharing of all analyses and data collection across all ownerships for consistency in type and kind.**

CAL FIRE is engaged on a number of fronts to address the items in this Goal. Perhaps the most significant is a Department-wide Enterprise License Agreement (ELA) with the Environmental Systems Research Institute (ESRI) that became effective on July 1, 2016. This new ELA consolidates all ESRI licenses for geographic information software (GIS) into a single bundle as opposed to past practice of individual sections of the Department managing their own. This model provides better tools to facilitate the collection, analysis and consistent presentation of datasets. The ELA not only provides an economy of scale for use of GIS tools, but also comes with more advanced technical assistance from ESRI to maximize CAL FIRE's data collection and output.

While GIS tools are utilized by a host of functions throughout the Department, the first segment taking advantage of ESRI's technical assistance is the finalization of the Defensible Space Inspection Collector Application (D-Space Collector App). CAL FIRE initiated a transition to move from collecting data from D-Space via the traditional paper method to an electronic format almost two years ago. This past summer, seven Units and three Contract Counties participated in a beta test of this new electronic collector app, resulting in the collection of more than 25,000 inspection records. CAL FIRE staff is currently working with ESRI technicians to finalize the collector app, with anticipated rollout in early 2017. This new program will provide much more accurate and timely data for defensible space information across the state.

A similar collector application has also been developed to capture information from damaged and destroyed structures in a post fire scenario. This damage inspection program, referred to as DINS, is collecting data that will be analyzed to determine the effectiveness of building codes and fire safety regulations for the Wildland Urban Interface (WUI) areas. This will be discussed in more detail in Goal 7.

CAL FIRE continues to utilize the CAL FIRE **Management Activity Project Planning and Event Reporting (CaMAPPER)** application for collection and dissemination of forest improvement and fuels reduction activities in a geospatial format. Since the web based version of this program went online in 2014, data entry has become more user friendly. Currently, a major upgrade to the program, which is known as Version 3, is being readied for rollout in the first half of 2017. This new version will include more detailed reporting capabilities to capture a wider variety of prevention activities. It will also provide a specific module to enable daily work performed by CAL FIRE camp crews to report on their prevention work outside of established prevention projects. A data summary tool will also be included to better analyze project accomplishments.

Currently, CalMAPPER includes a list of the following statistics:

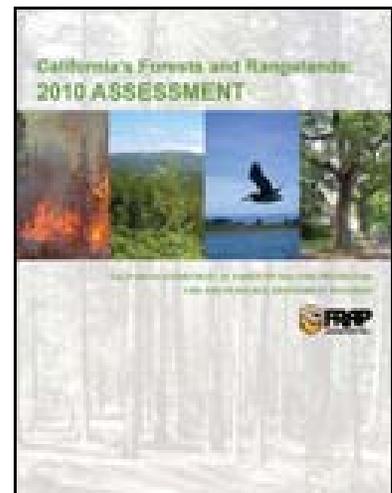
- The statewide database contains about 733 projects, 1,467 treatments and 3,560 activities on approximately 210,144 acres that have been completed or are still active since 2009. This is an increase of more than 37,000 acres from last year's report, and is primarily due to increasing project activity as well as improved reporting procedures.

Project Treatment Acreage categorized by Treatment Objective

Treatment Objective	Acres	% per Objective
Fuel Reduction	154,380	73%
Fuel Break	15,735	7%
Re-Forestation	11,386	5%
Public Outreach	8,495	4%
Right of Way Clearance	7,020	3%
Land Conservation	5,848	3%
Type Conversion	5,127	2%
Ignition Management	2,154	1%
<b>Total</b>	<b>210,144</b>	<b>100%</b>

Projects completed or in progress since 2009 broken down by Treatment Objective  
 Source: CalMAPPER, October 2016

The Fire and Resource Assessment Program (FRAP) staff continue to work on updating the current 2010 State Forest and Range Assessment document. It is now nearly complete, and will provide a thorough, up to date analysis of the wildfire threat to ecosystem health and community safety. The updated document will describe wildland fire hazards, fire regime departures, and provide characterization and trends of Wildland Urban Interface (WUI) areas. A number of focused risk assessments of key natural resource assets will be analyzed. These include habitat, water quality and quantity, and forest carbon dynamics. A significant focus is being placed on the current drought impacts, along with the most up to date climate change data. The collected information and analyses will provide additional spatial datasets for CalMAPPER to use in prioritizing landscapes, defining projects and activities, and assessing the benefits realized by pre-fire programs.





Another ongoing project with FRAP is an update to the Fire Hazard Severity Zone (FHSZ) maps within SRA. These maps identify areas broken into Moderate, High, and Very High Categories. State statute requires CAL FIRE to map fire hazard zones for the application of a number of fire safety regulations, including hazard disclosure for real-estate, building code requirements to mitigate wildfire losses, and other basic safety measures (PRC 4290-4291 equivalence) in Local Responsibility Areas. After a successful statewide mapping effort conducted over the 2007-2010 time frame, the Office of the State Fire Marshal's Fire Plan Program, in conjunction with FRAP are gearing up for a map update of FHSZ to reflect land-use change, jurisdiction change, and

new capabilities in spatial modeling of fire hazards. A key component of the map update will involve using localized fire climatology to better assess fire weather influence on fire exposure. Letters to CAL FIRE Units and LRA jurisdictions informing them of the upcoming project, and soliciting input on past experience will go out this winter, with early draft model development and outreach, facilitated by Unit Fire Plan staff, initiating in the second half of 2017.

A final note involves fire safety regulations associated with the California Public Utilities Commission (CPUC). CAL FIRE staff has been instrumental in development of utility-specific Fire Hazard maps for application of advanced fire safety regulations targeted at overhead utilities. A large number of California's most damaging fires have resulted from powerline ignitions, and the CPUC process of rulemaking has been working on enhanced regulations that require mapping of utility-specific fire hazards for implementation. Phase 1 of the Mapping was adopted in May 2016, which provides the base inputs required for the second phase of map development resulting in zones for regulatory implementation. CAL FIRE staff is leading the technical review process of the Map 1 to Map 2 process and expect a final Map 2 product and revised fire safety regulations by late 2017.

**Goal 2: Articulate and promote the concept of land use planning as it relates to fire risk and individual landowner objectives and responsibilities.**

In 2012, Senate Bill (SB) 1241, (Chapter 311, statutes of 2012), the Wildfire Hazard Legislation Safety Element Planning and Zoning Law, required cities and counties to adopt more comprehensive and long term fire safety guidelines within the Safety Elements of the Jurisdiction's General Plan. By January 2015, Land Use Planning (LUP) Program staff had been established, and began engaging local fire and government planning and community development officials.

Initial conversations focused on Safety Element reviews to ensure that goals, policies and objectives are identified for the protection of communities from unreasonable risks associated with wildfires, as required by CGC § 65302. Statewide, a total of 56 counties and 189 cities are obligated to participate in this review, based on the existence of Very High Fire Hazard Severity Zones within their jurisdictions. As of October 2016, LUP staff has conducted face to face introduction meetings with all jurisdictions identified to engage in this review. Staff has provided several presentations throughout the state at various workshops to illuminate the Land Use Planning Program to local fire officials, planning agency personnel, elected officials and associations of government. All of the events have led to many excellent networking opportunities and relationships. A total of 23 formal Safety Element reviews across the state have been performed on behalf of the Board since program inception. These reviews have been conducted by using the Board of Forestry and Fire Protection's General Plan Safety Element Assessment.

A positive outcome of the LUP Program has been the awareness by local planning and community development officials of the expertise that these staff members can provide on subjects other than Safety Elements. One example involves changes made to the Fire Safety Regulations by the Board on Public Resource Code (PRC) 4290, and the accompanying requirement for local jurisdictions to recertify their adoption of these regulations effective January 1, 2016. Many local officials were unclear on how these new regulations affected them, and what process was required for implementation. Recent interactions with LUP staff allowed a direct point of contact with a CAL FIRE representative to ask questions about these regulation changes, and get direction and clarification. LUP staff has been able to work closely with Board staff to ensure consistent messaging, and have helped guide local government officials with their local adoptions of updated regulations and improved fire safety measures in the Safety Elements of their General Plans.



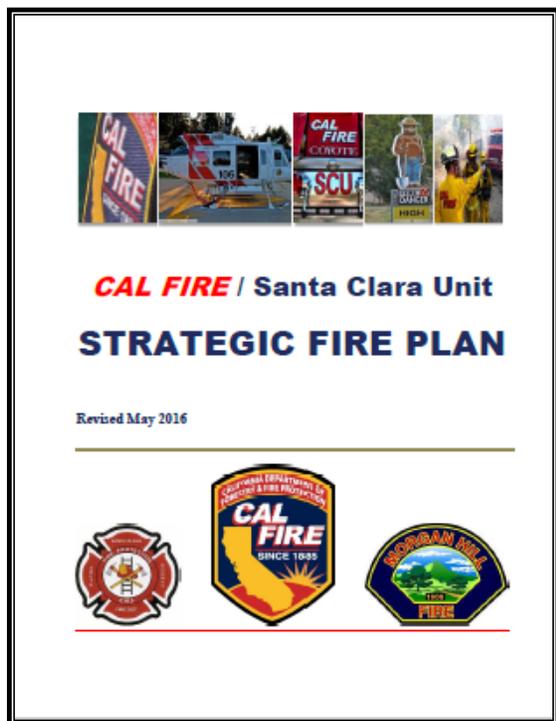
In 2015, large scale destructive fires resulted in significant structure losses in Lake and Calaveras Counties. In 2016, these same forces caused additional structure loss in Kern, Monterey, San Luis Obispo Counties, and again in Lake County. In each case, Damage Inspection Teams (DINS) were deployed to assess the damage to structures and gather information on each structure loss. LUP staff performed lead roles in these deployments. Staff members gained first-hand knowledge of destruction caused by these large scale incidents, and how land use planning strategies can affect the outcome of buildings exposed to wildfires. In turn, this allows more successful dialogue with local officials on the implications and need for successful community planning that addresses the potential

for wildfire exposure. A further benefit has been identified as these communities begin the rebuilding process. Many CAL FIRE Units do not have the staffing levels to assist cities or counties impacted by these devastating events in the rebuilding process. LUP staff has been requested to assist local Unit staff in providing presentations to elected officials, and planning and development agencies on current requirements for rebuilding in the SRA. These connections continue to improve relationships and consistency in planning throughout the state. As this program continues its implementation strategies, the long term goal of creating a higher level of fire safety through improved planning is becoming a reality.

**Goal 3: Support and participate in the collaborative development and implementation of wildland fire protection plans and other local, county and regional plans that address fire protection and landowner objectives.**

Each CAL FIRE Unit and Contract County has developed a Unit Fire Plan which is updated annually every June. These plans are currently available for viewing at: [http://cdfdata.fire.ca.gov/fire\\_er/fpp\\_planning\\_plans](http://cdfdata.fire.ca.gov/fire_er/fpp_planning_plans). The plans provide an overview of

goals and objectives for prevention work that address public education, vegetation treatment projects, and long term prevention planning at a local level. Each of these reports summarizes the Units accomplishments recorded between June 2015 and May 2016.



A review of these Unit and Contract County Fire Plans points towards a growing collaboration with local jurisdictions and other stakeholders in the development of Community Wildfire Protection Plans (CWPP's) with local Fire Safe Councils. More communities are being added to the growing list of Firewise Communities every year, and California now lists 125 of these nationally recognized fire safety groups. Grants from the State Responsibility Area Fire Prevention Fee (SRAFPF) have also funded fire

prevention planning efforts at the local level. Through these grants, CAL FIRE Units are becoming stronger partners with local groups to plan and complete prevention projects that will reduce the risk of wildfire to habitable structures in the State Responsibility Area.

These plans throughout the state have become focused on the impacts of the ongoing drought as well as the growing tree mortality problem, and are being managed to coordinate with Federal agencies and synchronize with the National Cohesive Strategy. More effort is also being placed at solidifying public/private partnerships to maximize prevention activities across the state.

**Goal 4: Increase awareness, knowledge and actions implemented by individuals and communities to reduce human loss and property damage from wildland fires, such as defensible space and other fuels reduction activities, fire prevention and fire safe building standards.**

Public education and awareness continue to be a high priority for CAL FIRE to address the increasing threat of wildfires and Wildland Urban Interface (WUI) losses. The continuation of the historic drought and the increasing scope of tree mortality have increased the public’s perception of these risks. Defensible Space Inspectors (DSI’s) continue to meet with homeowners and educate them on the benefits of defensible space and other actions that make their homes more resilient to wildfire. The number of inspections dropped this past year, primarily due to CAL FIRE personnel focusing more time on prevention projects such as vegetation removal, prescribed fires, and a significant increase in the number of education hours. These efforts are paying off as far fewer citations were issued than in any previous year, which indicates a growing acceptance and hard work from land owners to provide appropriate fire safety measures to their properties.

Prevention Activities	STATEWIDE					
	Totals FY 2010/11	Totals FY 2011/12	Totals FY 2012/13	Totals FY 2013/14	Totals FY 2014/15	Totals FY 2015/16
Inspections	154,884	106,382	149,397	203,863	207,295	189,933
Violations	17,465	10,417	9,273	20,163	27,623	24,303
Citations Issued	2,857	1,655	890	2,550	631	211
Education Hours	41,893	39,044	30,218	42,316	44,723.5	47,366

SRA defensible space inspections and education hours between July 2010 and June 2016

Goal 4 also emphasizes the importance of investigating all fires and determining the cause so that trends can be analyzed. Improvements in the way fire investigations are being reported are consequently improving the data available through the **California All Incident**

**Reporting System (CAIRS).** Since the implementation of the reporting module for wildland fires in the Preliminary Investigation Report, also known as a LE-66 Report, more wildland fire information is now being gathered. This new module collects all wildland fire information now being gathered, and makes it available to managers and investigators through a statewide database. Many more people are now able to analyze this information, making it easier to analyze trends in fire cause, and aid in collecting data for potential arson investigations. It also eliminates duplicate reporting, resulting in a more accurate database and improves the quality of information through CAIRS. Similar modules are currently in development for both structure and vehicle fires.

The CAIRS program has also seen an increasing number of fire agencies throughout California provide improved reporting records. An increased number and accuracy of reports allows for better analysis to help minimize impacts of wildland fires. California continues to submit some of the highest number of reports to the National Fire Administration in the nation. The heightened level of building codes for WUI areas, incorporated into the California Building Code (CBC) Chapter 7A, continues to be validated due to the increased collection of post fire data. CAL FIRE is also using this improved data collection in collaboration with the Insurance Commissioner's Office to address insurance conflicts in WUI areas.

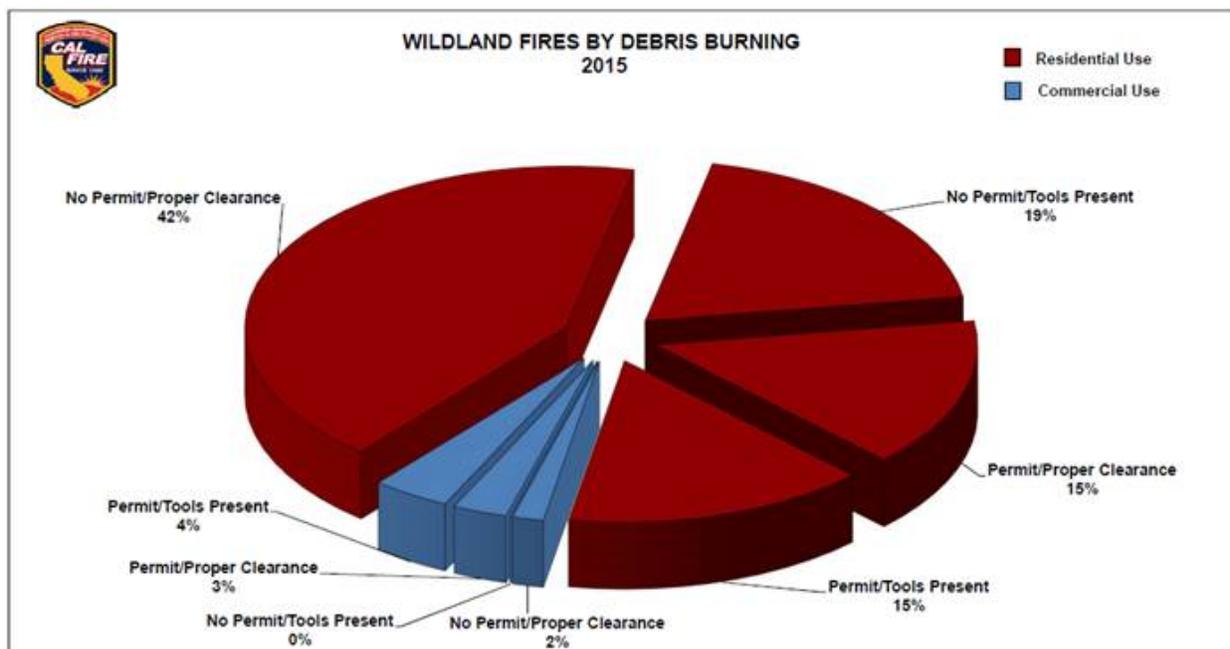
The ongoing impacts of the drought have resulted in some of the most critical fuel moisture readings on record, which has contributed to a significant increase in wildland fire ignitions during 2016. This has placed an even greater importance on our public education campaigns to ensure people are taking precautionary steps to prevent wildfires, and be prepared in the event a wildfire does threaten their home or property. The "Ready, Set, Go!" and "One Less Spark, One Less Wildfire" messages continue to resonate with the public and other fire agency partners. Through these and other public education efforts, CAL FIRE continues to fight impacts from the drought and dry fuel conditions.



CAL FIRE is committed to increasing the amount of acres treated by prescribed fire as well as increasing the number of defensible space inspections completed every year. On September 27, 2016, the Director of CAL FIRE issued a memorandum outlining a plan to achieve 20,000 acres of vegetation management through prescribed fire annually. This aligns with the Memorandum of Understanding for the Purpose of Increasing the Use of Fire to Meet Ecological and Other Management Objectives (MOU) that was incorporated into the Strategic Fire Plan as Appendix E in April 2016. This MOU was signed by CAL FIRE and ten additional organizations whose collective vision is to jointly develop policies

and guidance documents to support the expanded use of fire to improve ecological conditions and more effectively undertake fire management across the landscape. In addition, the Director’s memorandum set a goal of performing 250,000 defensible space inspections every year. The planned increase in prescribed fire and inspections to help educate the public will further help accomplish Goal 4.

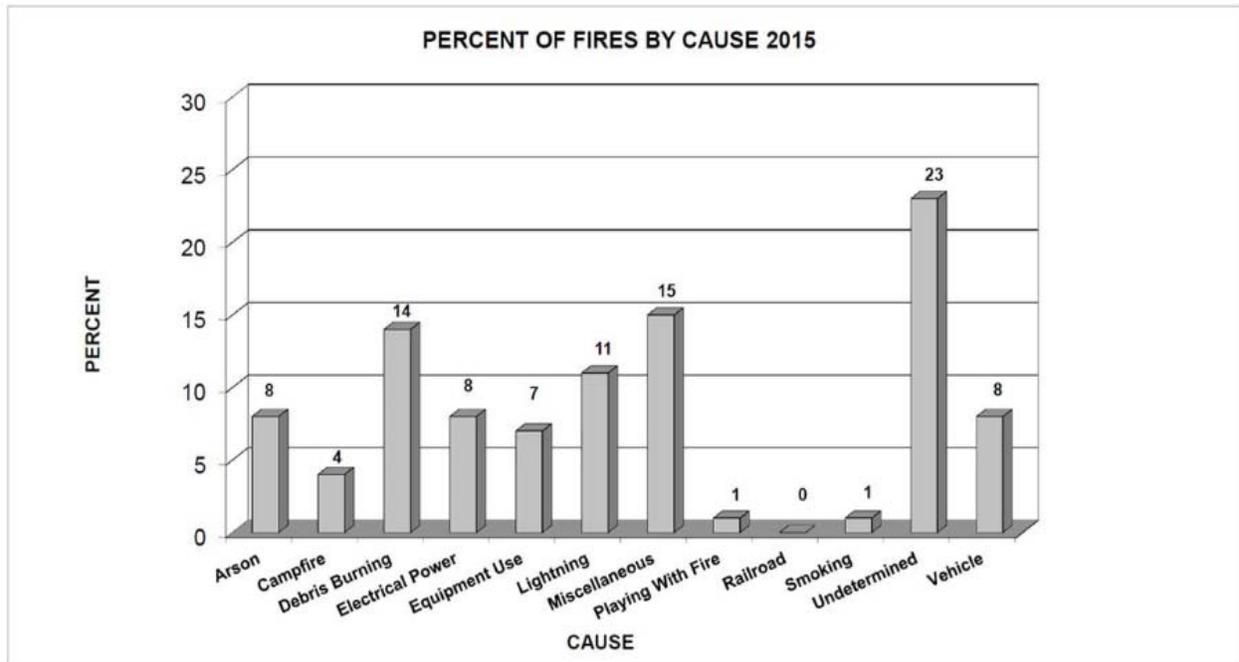
Debris burning continues to be reported as one of the highest percentages of fire causes through CAIRS. A concern with this particular statistic is the fact that 63% of all debris caused fires had no permit issued. Ninety-one percent (91%) of the debris-burning caused fires were residential and sixty-one percent (61%) of those fires had no permit to burn. By identifying this statistic, the Department can look at ways to reduce non-permitted debris burning through prevention and education. The chart below displays the cause information for debris burning for 2015.



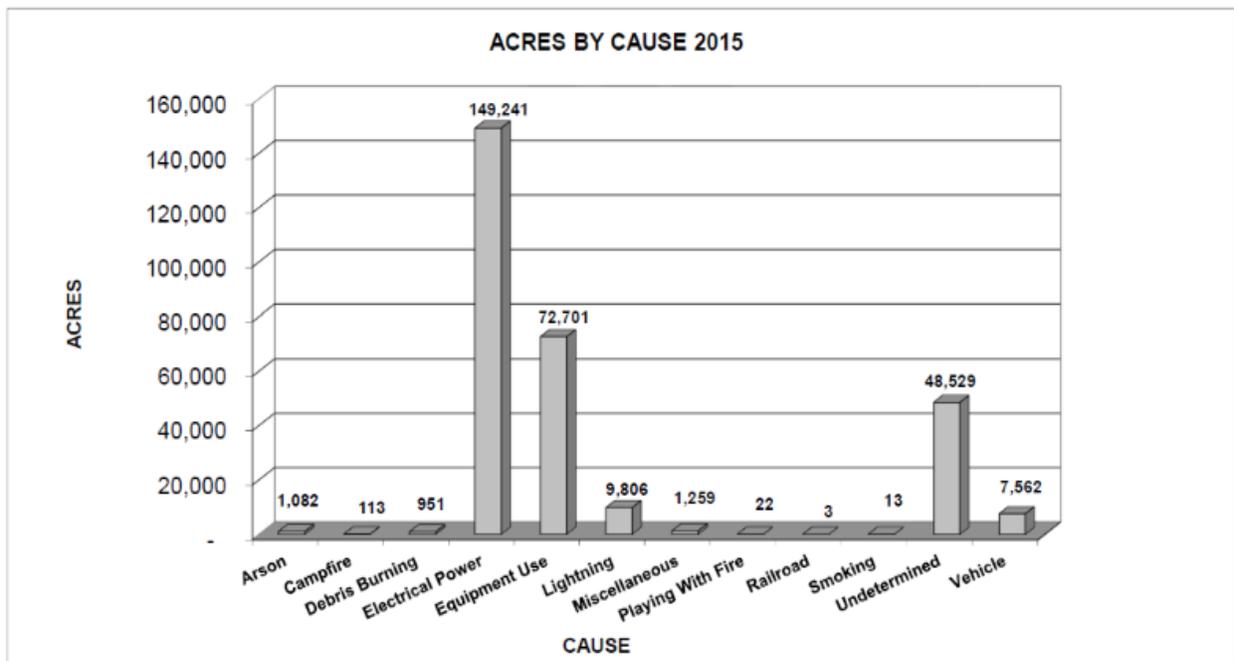
Graphic 1: Detail Debris Burning Wildland cause information reported into CAIRS 2015.

Improvements in the incident reporting data are continuing because of the addition of the electronic wildland fire investigation report available to CAL FIRE. This allows CAL FIRE personnel to input specific information relating to fire cause, origin and contributing factors. Based on CAL FIRE statistics in the Redbook (prepared in 2016 to summarize 2015), there continues to be an improvement in cause determination which helps to lower the percentage of fires reported as undetermined or miscellaneous. Undetermined and miscellaneous cause types dropped to thirty-eight percent (38%) in 2015 from fifty-eight percent (58%) in 2011. In 2015, Electrical Power fires were the leading cause of acreage burned. The majority of that acreage was the results from only two fires. Debris burning continues to be the primary cause for human-related fires. For 2015, the Redbook identifies a total of 5,787 wildfire incidents that burned 297,419 acres in CAL FIRE’s Direct

Protection Area (DPA), which represents a 16% increase in fires and a 76% increase in acres burned from 2014. The significant increase in acreage burned is most likely resulting from the extreme drought. Causes of these wildland fires and acres by cause are shown in the charts below.

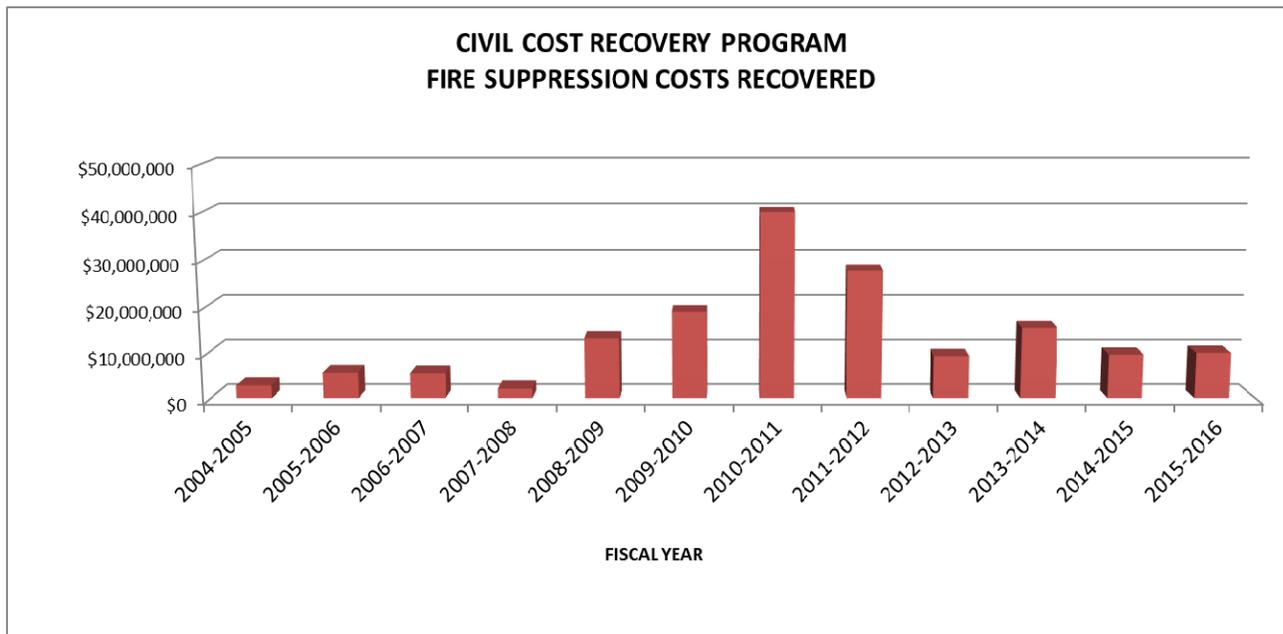


Graphic 2: Primary wildland fire cause identified on CAL FIRE direct protection areas displayed by number of incidents.



Graphic 3: Primary wildland fire cause identified on CAL FIRE direct protection areas displayed by number of acres burned.

The 2010 Strategic Fire Plan (Goal 4, Objective J) addresses the importance of CAL FIRE’s Civil Cost Recovery Program. The Civil Cost Recovery Program serves the State in multiple ways: it assigns fire suppression costs to culpable parties rather than to taxpayers, and it acts as a deterrent to carelessly caused fires. Since 2004, more than 300 cases have been resolved with recovery of funds. Approximately \$9.9 million was recovered during the 2015/16 Fiscal Year.



CAL FIRE’s costs recovered July 2003 through June 2016.

The fire suppression recovery costs are based on the cases coming to conclusion within a fiscal year. The chart above indicates a spike in recovery of suppression costs during the fiscal years of 2010/11 and 2011/12. While these particular fire seasons were not as severe as previous years, the spike indicates the time frame that recovery costs were collected from previous years. Cost recovery efforts, including litigation, typically takes several years to conclude following the date the fire occurs, resulting in a lag in the reporting of moneys collected, in comparison to fire activity in any given year. The 2015-2016 dollar figures are funds that were recovered from fires occurring in previous years.

Employees working within the program manage cases at the Region level, assisting Units with equipment and personnel requests throughout the investigation. Sacramento staff provides oversight, consultation and legal support. Monies collected in these cost recovery efforts are returned to the State’s General Fund.

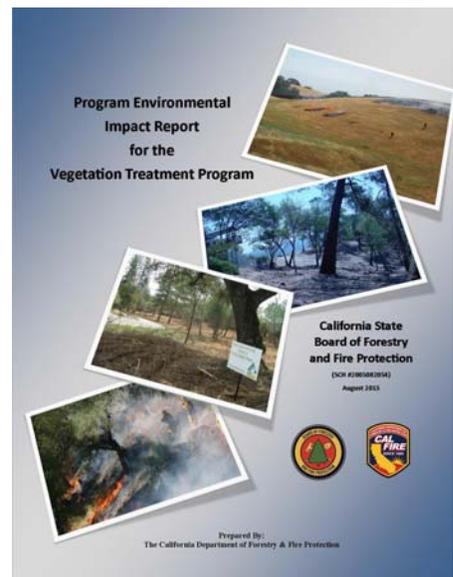
**Goal 5: Develop a method to integrate fire and fuels management practices with landowner priorities and multiple jurisdictional efforts within local, state and federal responsibility areas.**

The wildlands of California are naturally fire prone. Past land and fire management practices have had the effect of increasing the intensity, rate of spread, as well as the annual acreage burned on these lands. While most of the natural communities of plants and animals have adapted to natural fire conditions, these natural communities are now at risk from catastrophic wildfire primarily due to the hazardous fuel conditions that have been worsened by the prolonged drought which has consequently increased the effects of tree mortality throughout the state. Also at risk are the communities that interface with these wildlands, including those within wildland-urban interface (WUI) and rural areas. Strategic management and control of wildland vegetation is essential to the safety, health, recreational, and economic well-being of California's citizens.

Hazardous fuels are comprised of live and dead vegetation that has accumulated and increase the likelihood of unusually large wildland fires. When fire encounters areas of heavy fuel loads (continuous brush, downed vegetation or small trees) it can burn these surface and ladder fuels and may quickly move from a ground fire into a crown fire. The King Fire, which began in September 2014, and ultimately burned more than 97,000 acres in El Dorado and Placer Counties, is a prime example of this type of large wildland fire. What makes the King Fire unique, however, is the ongoing collaboration that resulted in the Fire Adapted 50 Project, named for US Highway 50 near the fire's origin. This is a cross ownership watershed project that is leveraging multiple funding sources and ownerships to address fuels treatment on a broader scale, and will serve as a pilot for projects in the future. The collaborative work is ongoing.

CAL FIRE continues to support objective "A" of this goal through increased support of landowner-initiated hazardous fuels reduction using all available authorities, including the Vegetation Management Program (VMP). In 2015, CAL FIRE VMP staff treated 2,955 acres with prescribed fire. An additional, 11,481 acres were treated mechanically or by hand crews. A concerted effort will be made to significantly increase the acres treated by VMP projects throughout the state in 2017.

The Board continues to work on the Vegetation Treatment Program Environmental Impact Report (VTPEIR) and is currently reviewing the public comment received during the California Environmental Quality Act



(CEQA) process. The VTPEIR is part of a comprehensive fire prevention strategy from the Board (Board, 2010) that is implemented by the Department of Forestry and Fire Protection (CAL FIRE). This program intends to lower the risk of damaging wildfires by managing vegetation to modify and/or reduce hazardous fuels. The key objectives of this program are to prevent loss of lives and property, reduce fire suppression costs, and protect natural resources from damaging wildfire through the use of appropriate vegetation treatments. The VTPEIR is not meant to resolve all hazardous fuel conditions, but rather provide a tool to address them on a voluntary basis for all stakeholders within and associated with the SRA. The implementation of this program would be a discretionary action by CAL FIRE and would govern project-scale decision making. Consequently, the VTPEIR provides an environmental analysis framework for vegetation treatment projects that abate fuel hazard on SRA lands and supports federal and local non-SRA fuel reduction projects.

The State Responsibility Area Fire Prevention Fund (SRAFPF) allocated \$9.5 million to 83 grant recipients during Fiscal Year 2014-15 to help reduce wildfire risk related to the drought. These prevention projects are underway, and have until March 2017 to be completed. Subsequently, 63 grant recipients have received \$5 million for Fiscal Year 2015-16. Of the 63 grant recipients, 19 received early funding to address the impacts of the Tree Mortality (TM) emergency. These grants were awarded in May 2016 and have until March 2018 to be finalized.



In the Fiscal Year 2016-17, the SRAFPF and TM Grant Programs were combined to simplify and streamline the grant application process. The combined SRAFPF/TM Grant programs will provide \$15.75 million for projects that focus on supporting local efforts to remove dead and dying trees that pose a threat to public health and safety and for projects that reduce the wildfire threat to habitable structures within State Responsibility Areas (SRA). The SRAFPF/TM Grant Program began accepting applications beginning August 22, 2016 and ended on September 28, 2016. CAL FIRE received a total of 264 applications, which are currently being reviewed. The awarded grants will be announced in December 2016. The successful grant recipients will have until March 2019 to conclude their projects.

CAL FIRE also participates with the long standing Biomass Working Group, sharing information and opportunities to promote the use of bio-feedstock as renewable energy source, and the development of bioenergy infrastructure. CAL FIRE is leading the Interagency Forest Climate Action Team (FCAT), and partnering with the California Environmental Protection Agency (CalEPA), and the Air Resources Board (ARB) to help organize and coordinate the development of a statewide Forest Carbon Plan. This plan is

outlined in the Natural and Working Lands section of ARB's Updated Scoping Plan, and can be read at:

<http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm>

CAL FIRE is working at local, state and national levels to protect and manage California forests so they can continue to provide net greenhouse gas benefits and so that we can reduce the impact to forests from the climate changes that are already taking place.

CAL FIRE has identified five forestry strategies for reducing or mitigating greenhouse gas emissions. They are:

- Reforestation to sequester more carbon.
- Forestland conservation to avoid forest loss to development.
- Fuels reduction to reduce wildfire emissions and utilization of those materials for renewable energy.
- Urban forestry to reduce energy demand through shading, increase sequestration, and contribute biomass for energy generation.
- Improved management to increase carbon sequestration benefits and protect forest health.

CAL FIRE is also working with stakeholders and other agencies to identify ways to reduce or adapt to unavoidable impacts to forest ecosystems and communities from climate changes that have already begun to occur.

The legislature and governor allocated \$40 million to CAL FIRE from the Greenhouse Gas Reduction Fund (GGRF for fiscal year 2016/2017. This funding will be used for the Urban and Community Forestry Program (\$15 million), for CCC projects (\$3 million), and for a new CAL FIRE grant program titled "Landscape Scale Forest Health" (\$22 million). This program will proactively restore forest health in order to reduce greenhouse gases (GHGs), to protect upper watersheds where the state's water supply originates, to promote the long-term storage of carbon in forest trees and soils, minimize the loss of forest carbon from large, intense wildfires, and to further the goals of the California Global Warming Solutions Act of 2006 (Assembly Bill 32, Health and Safety Code Section 38500 et seq.) (AB 32). CAL FIRE will award grants to entities that design and submit applications for multi-landowner, landscape scale projects.

Cal Fire has a key role in the Tree Mortality Task Force which is comprised of state and federal agencies, local governments, utilities, and various stakeholders that coordinate emergency protective actions, and monitor ongoing conditions to address the vast tree mortality resulting from five years of unprecedented drought and the resulting bark beetle infestations across large regions of the State.

**Goal 6: Determine the level of fire suppression resources necessary to protect the values and assets at risk identified during planning processes.**

Unit Pre-Fire Engineers are developing Fire Danger Operating Plans (FDOP) statewide. An FDOP documents the establishment and management of the local unit fire weather system and incorporates fire danger modeling into local unit fire management decisions using the National Fire Danger Rating System (NFDRS). Common fire business decisions include Dispatch Level, Staffing Patterns, Seasonal Assessments, Staffing Augmentation, Industrial Notifications, and Public Notifications. The FDOP is developed within the framework of NFDRS using a detailed analysis of historical fire occurrence and weather data derived from Remote Automated Weather Stations (RAWS).



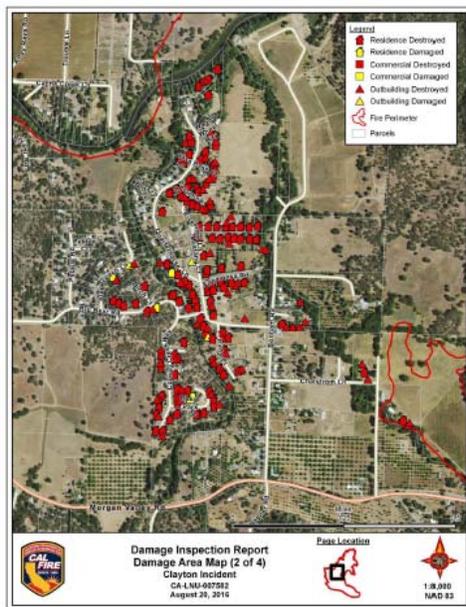
Emergency response resources are increasingly able to utilize Pre-Attack Plans and other forms of emergency planning. These include coordinated efforts with local communities who have created evacuation plans in conjunction with local Community Wildfire Protection Plans (CWPP's). Local Units throughout the state are tapping into the valuable resources available from FRAP to help pre-identify intelligence data that is needed in advance of an uncontrolled wildfire. As more fuel reduction projects are completed, initial attack forces are utilizing them as part of their suppression strategy and tactics.

CAL FIRE, in association with The California Governor's Office of Emergency Services and through a strategic partnership with the Department of Homeland Security's Science & Technology Directorate (DHS S&T), has acquired the Next-Generation Incident Command System (NICS) software for use by California's emergency services professionals. The California deployment of the NICS software is called Situation Awareness and Collaboration Tool (SCOUT). SCOUT provides an information sharing environment to facilitate operational and tactical collaboration among California emergency responders and interagency situational awareness for local, tribal, state, and federal partners for small to extreme scale homeland security incidents, such natural disasters, technological hazards, intentional attacks, and human-caused emergencies. Another technological advancement for CAL FIRE is the development of Automatic Vehicle Locators (AVL) which will be installed in every emergency vehicle in the fleet. This device will provide a heightened level of safety for all personnel because of the ability for vehicle locations to be tracked in real time. This technology will enable more efficient management of equipment and will enhance personnel safety and accountability.

One final note on the level of fire suppression resources is to acknowledge the increased staffing levels in some areas of the state to address the ongoing drought conditions and resulting increase in tree mortality. This is due to the Governor's authorization for a significant augmentation to CAL FIRE's budget. These added positions have contributed to CAL FIRE's goal of keeping 95% of all unwanted fire ignitions to ten acres or less, despite an increase in both ignitions and total acreage burned over the five year average.

**Goal 7: Address post-fire responsibilities for natural resource recovery, including watershed protection, reforestation and ecosystem restoration.**

The importance of post-fire recovery and documentation of fire impacts continues to increase. CAL FIRE has implemented a number of programs to improve these efforts and gather critical data from these destructive wildfire events.



As referenced in Goal 1, the Damage Inspection Program (DINS) continues to develop into a more effective post-fire data collection tool. A standardized reporting template has been created which will result in all future DINS reports to be completed using similar formats. While the total number of structures destroyed by wildfires during 2016 was fewer than in 2015, the number was still unacceptably high. Large structure losses were reported from fires such as the Erskine Fire in Kern County, the Blue Cut Fire in San Bernardino County, the Chimney Fire in San Luis Obispo County, and the Clayton Fire in Lake County. The ESRI Collector App being used for this data collection continues to be refined, improving both the quality and quantity of data collected. The total

database of records collected by CAL FIRE dating back to the Boles Fire in Weed, CA, in 2014, now exceed 5,000 structures damaged or destroyed by wildfires across the state. Presentations on the DINS program have been presented at national conferences such as the National Fire Protection Association (NFPA) and Fire Rescue International (FRI), generating a great deal of interest from other states and organizations around the country. CAL FIRE hopes to partner with some of these organizations to help research the data and provide feedback and analysis on the effectiveness of current WUI building codes and fire safety regulations. Learning from this large collection of post-fire data will provide a better understanding of how to make improvements to reduce these losses. The speed and accuracy of this collector app has allowed real time data to be provided for emergency managers as well as public awareness and information flow. It has also become a valued

tool for local elected officials to help determine disaster declarations and have an accurate record to begin the recovery process.



In September 2015, the devastating Valley Fire in Lake County severely impacted Boggs Mountain Demonstration State Forest. As a result of this fire, FRAP personnel have initiated research into fire effects on forest carbon and regeneration strategies to secure carbon storage. They are conducting observational and manipulative experiments

to describe direct effects of wildfire on forest structure and above-ground carbon, and how alternative forest regeneration practices impact forest, fire hazard, and carbon sequestration dynamics in high-severity post-fire environments. The findings of the research should provide insight into how treatments might impact fire severity and carbon losses, how best to recover from these losses, and assure that California's forest continue to mitigate climate change by acting as carbon sinks.

As a result of the Valley Fire in Lake County in September 2015 CAL FIRE along with other agencies, determined that a post-fire emergency response team was needed to assess risk to lives and property from debris flows and hyper-concentrated flood flows. It was recognized that in order to avoid duplication of efforts and make the most of funding opportunities, it was critical for the post-fire response team to coordinate with and compliment the efforts that were underway by Natural Resources Conservation Service (NRCS) and other state and federal agencies. A multi-agency team comprised of individuals with expertise in geology, hydrology, forestry, GIS, and water quality was assembled immediately after the fire was extinguished. This Post Fire Watershed Emergency Response Team (PFWERT) has established primary objectives into two phases. The objectives for Phase I are:

- Identify on-site and downstream threats to public health or safety from landsliding, debris torrents, flooding, road hazards, and other fire related problems.
- Develop and recommend emergency protective measures needed to avoid life-safety threats.

Following the Phase I effort, a Phase II PFWERT team will be assembled to:

- Identify threats to watershed resources, including: excessive erosion; impaired water quality; threats to wildlife, fisheries, and botanical values; and cultural resources.
- Develop and recommend emergency protective measures needed to prevent identified threats.

The efforts by the PFWERT teams are ongoing, and will be reported in future updates. In 2016, similar efforts have been conducted on the Soberanes Fire in Monterey County, and the Loma Fire in Santa Clara County. Collectively, these efforts indicate a strong approach to achieving Goal 7 of the Strategic Fire Plan in natural resource recovery.

#### **IV. Summary**

As described throughout this report, we continue to find ourselves in a unique and critical time. The phrase “historically unprecedented” is used more frequently, not just in describing fire activity, but also in relation to the drought, the severity of tree mortality, and overall climate change impacts. The trend, however, appears to be more of an acceptance that the climatic and environmental conditions we are now experiencing may be more “normal” rather than “unprecedented.”

The 2010 Strategic Fire Plan continues to provide a strong base for all these efforts to be addressed. As pointed out at the beginning of this report, many of the accomplishments and activities outlined in this report overlap several of the seven goals identified in the Plan. In large part, this overlap of the seven goals has continued to focus down on the two primary elements identified in the Vision Statement of the Plan – to create a more resilient natural environment, and more resistant man-made assets to the effects of wildfire. The level of programmatic cooperation both within and outside the department continues to improve, as it must, for the challenges to be met. An example of this is the large number of stakeholders who have joined forces on the Tree Mortality Task Force to address this environmental disaster – no one agency or organization can attack this problem alone.

While the Plan has served well as a guideline to address the wildfire problem and forest health issues within the State, the cumulative impact of all the factors listed above deserve our full attention. The 2010 Plan contains a written timeline that states the next comprehensive update for this document will take place in 2018. As this Report is being written, the Board staff is preparing to announce a new committee of individuals from CAL FIRE and other stakeholders to begin writing this new Plan. This committee will be faced with addressing the impacts of drought, healthy forest issues including statewide tree mortality and increasing fire severity, along with accompanying hillside runoff and water

quality issues. In addition the new Plan will provide an opportunity to address issues that have been created because of the State Responsibility Area Fire Prevention Fee – which did not exist when the last Plan was written in 2010 – such as the frequency of SRA boundary reviews.

Certainly, the existing Plan provides a very solid foundation upon which to build, and which has served the State of California very well over the past half-decade. There are many aspects of the 2010 Plan that remain viable today. One is the fact that the Plan was created and remains a living document. Embarking on this comprehensive update will provide opportunities to address the current impacts outlined in this Report. The success of this undertaking will rely on healthy discussions, along with strong cooperation and coordination both internally and externally with our many and varied partners. The Fire Plan Program will continue to work closely with the Resource Protection Committee as the many efforts identified in this program unfold. With support and guidance from the Board of Forestry and Fire Protection, a more resilient and safer environment will be accomplished.



## V. Summarized Statewide Progress on Goals and Objectives

**Goal 1:** Identify and evaluate wildland fire hazards and recognize life, property and natural resource assets at risk, including watershed, habitat, social and other values of functioning ecosystems. Facilitate the sharing of all analyses and data collection across all ownerships for consistency in type and kind.

Objectives	Performance Measures Exist/Needed	Actions/ Accomplishments
<b>a)</b> Identify and provide appropriate automated tools to facilitate the collection, analysis and consistent presentation of datasets.	Exist	Cal MAPPER V3 is replacing V2 in Spring, 2017. This new version will provide a higher degree of project accounting, and serve as the primary recording tool for many CAL FIRE programs.
<b>b)</b> Update and maintain consistent, detailed vegetation and fuels maps across all ownerships in an efficient and cost-effective manner.	Exist	FRAP continues to provide fire hazard mapping, vegetation data updates, and rangeland assessments, while collaborating with USFS and other partners.
<b>c)</b> Provide regular updates to the Department's Fire Hazard Severity Zone maps.	Exist	Updated vegetation data will provide updated data for modeling. An updated study for FHSZ is being prepared for 2017.
<b>d)</b> Develop and validate weather and climatology information for use in predicting fire behavior.	Ongoing	CAL FIRE Units continue to develop Fire Danger Operating Plan while working with the Desert Research Institute to provide an interactive fire weather prediction tool.
<b>e)</b> Update fire history information and re-evaluate existing fire prediction models to get composite fire threat across all ownerships.	Ongoing	As CAIRS accuracy and depth improve through better field reporting historical records and fire prediction also improve. CAIRS will be updated in late 2017 or early 2018.
<b>f)</b> Update existing data for values and assets at risk utilizing geographic information systems (GIS) data layers and other mapping solutions, including fire behavior-specific effects.	Exist	The West Wide Risk Assessment data is available, and FRAP staff are assessing the data to determine how to best use this information, and prepare it for release to the public.
<b>g)</b> Use science-based approaches to evaluate, understand and protect against the negative impacts of new and emerging threats such as climate change, insect and disease outbreaks or land use changes on forest health and public safety, including the build up of hazardous fuel conditions and resulting fire behavior.	Ongoing	CAL FIRE (FRAP) continues to be an active member of the California Fire Science Consortium advisory committee which is designed to connect science with the end users.
<b>h)</b> Engage and participate with local stakeholder groups (i.e., fire safe councils and others) to validate and prioritize the assets at risk.	Exist	CAL FIRE Units are strengthening their ties to local FSC's and communities to collaborate on CWPP's and other hazard designations.

**Goal 2:** Articulate and promote the concept of land use planning as it relates to fire risk and individual landowner objectives and responsibilities.

Objectives	Performance Measures Exist/Needed	Actions/ Accomplishments
<p><b>a)</b> Assist the appropriate governmental bodies in the development of a comprehensive set of wildland and wildland urban interface (WUI) protection policies for inclusion in each county general plan or other appropriate local land use planning documents.</p>	Exist	<p>Since January, 2015, CAL FIRE's Land Use Planning Program has been working closely with planning and development officials of the 189 cities and 56 counties required to participate with GC65302. Newly formed relationships with local agencies facilitate conversations on the significant benefits of fire planning and protection statewide.</p>
<p><b>b)</b> Identify the minimum key elements necessary to achieve a fire safe community, and incorporate these elements into land use planning, CWPPs and regional, county and Unit fire plans.</p>	Exist	<p>Fire Adapted Communities approach was developed through the Cohesive Strategy, it incorporates concepts such as Firewise, Ready set Go, Local Fire Safe councils, and CWPP's.</p>
<p><b>c)</b> Engage in the development, review and adoption of local land use plans to ensure compliance with fire safe regulations and current building standards.</p>	Exist	<p>CAL FIRE's Land Use Planning Program staff works with agencies to ensure that safety elements contained within general plans contain goals, policies and objectives for the protection of communities from unreasonable risks associated with wildfires. As part of the review process, PRC 4290, 4291, as well as CBC Chapter 7A are recognized as minimum standards when developing and maintaining defensible space in the SRA and in areas designated as Very High Fire Hazard Severity Zones in the LRA.</p>
<p><b>d)</b> Promote the consolidation and broad availability of project-level land use planning, project implementation and wildland fire occurrence data developed throughout each county for use by all cooperating agencies.</p>	Ongoing	<p>CAL FIRE continues to support the development of web based viewers such as MyPlan, MyFire Plan, and the Assessment Priority Landscape Viewers which make data more easily accessible to the public. CAL FIRE continues to participate in CalOES's 2013 update to the Statewide Hazard Mitigation Plan.</p>

**Goal 3:** Support and participate in the collaborative development and implementation of wildland fire protection plans and other local, county and regional plans that address fire protection and landowner objectives.

Objectives	Performance Measures Exist/Needed	Actions/ Accomplishments
<b>a)</b> Establish a working group, consisting of Board members and Department staff, to develop minimum standard elements for inclusion in Unit fire plans.	Exist	CAL FIRE's Unit Fire Plan template continues to provide a consistent platform for all Units to report prevention activities and accomplishments.
<b>b)</b> Emphasize coordination of Unit fire plans with community wildfire protection plans to encourage and support one consistent approach. Develop county or regional fire plans by bringing together community-based groups, such as fire safe councils and affected fire and land management agencies.	Exist	CAL FIRE Unit Fire Plans (SLU, VNC, and BUTU) are now the county CWPP; accomplished through collaboration with Local FSC's. More communities are addressing their threats through Firewise and Communities At Risk designations.
<b>c)</b> Create and support venues in which individual community members can be actively involved in local fire safe councils, community emergency response teams, FIREWISE and other community-based efforts to develop readiness plans and educate landowners to mitigate the risks and effects of wildland fire.	Exist	CAL FIRE works closely the CFSC and other groups in support of workshops that provide education venues for local FSC's. These relationships are strengthening at the local level.
<b>d)</b> Collaborate with federal and local governments, other State agencies, fire service, and other organizations, to maintain and improve emergency response plans.	Ongoing	CAL FIRE has ongoing meetings with agencies and the forest industry to prepare for emergency response.
<b>e)</b> Ensure planning efforts are consistent with the National Fire Plan, the Healthy Forest Restoration Act, the Statewide Hazard Mitigation Plan, as well as local hazard mitigation plans and other relevant statewide strategic planning documents.	Ongoing	The CWCG Interagency Prevention Committee continues to facilitate interagency coordination at the planning and prevention level.
<b>f)</b> Maximize available resources to strengthen planning efforts through the development of public/private partnerships.	Ongoing	Participating in the development of CA Public Utilities Commissions improved fire threat mapping along power lines.
<b>g)</b> Develop fire risk mitigation treatment decision support tools to assist in project design, implementation, and validation.	Ongoing	As Fire Plan Framework tools are designed to accomplish this. The updating of the Assessment also supports these efforts through the enhancement of Priority Landscapes.

**Goal 4:** Increase awareness, knowledge and actions implemented by individuals and communities to reduce human loss and property damage from wildland fires, such as defensible space and other fuels reduction activities, fire prevention and fire safe building standards.

Objectives	Performance Measures Exist/Needed	Actions/ Accomplishments
<b>a)</b> Educate landowners, residents and business owners about the risks and their incumbent responsibilities of living in the wildlands, including applicable regulations, prevention measures and preplanning activities.	Exist	Interagency campaign using multiple prevention messages at: <a href="http://www.preventwildfireca.org/">http://www.preventwildfireca.org/</a> OSFM website, LUP notes.
<b>b)</b> Educate landowners, residents, fire safe councils and business owners to understand that fire prevention is more than defensible space, including why structures ignite, the role embers play in such ignitions and the importance of fire safe building designs and retrofits.	Ongoing	CAL FIRE Units coordination with CA Fire Safe Council on local public education workshops through school programs, Firewise Communities and local Fire Safe Councils.
<b>c)</b> Facilitate activities with individuals and organizations, as appropriate to assist individual property owners in complying with fire safe regulations.	Ongoing	Ongoing meetings with State Dept. of Insurance, D-Space education to homeowners.
<b>d)</b> Improve regulatory effectiveness, compliance monitoring and reporting pursuant to Public Resources Code (PRC) 4290 and 4291.	Exist	PRC 4290 regulations were updated in 2015, education to public by Defensible Space Insp.
<b>e)</b> Increase the number and effectiveness of defensible space inspections and promote an increasing level of compliance with defensible space laws and regulations through the use of CAL FIRE staffing as available, public and private organizations, and alternative inspection methods.	Ongoing	CAL FIRE is creating a new electronic data collection program for defensible space inspections providing centralized data in real time. Land Use Planning Program.
<b>f)</b> Promote the consolidation of Fire Safe Regulations contained in California Code of Regulations (CCR) Title 14, with CCR Titles 19 and 24, to achieve uniform application of building standards.	Exist	CAL FIRE-OSFM has incorporated WUI standards in Building Inspector Certification Courses (1A-3), LUP Program.
<b>g)</b> Continue to evaluate new, ignition-resistant construction technologies and materials, and promote the strengthening of California Building standards.	Ongoing	CAL FIRE-OSFM working with research laboratories to evaluate effectiveness of codes and regulations.
<b>h)</b> Seek out incentives to promote the retrofit of existing structures to meet ignition-resistant building codes.	Ongoing	Hold discussions with local government partners and Insurance Office.
<b>i)</b> Actively enforce and seek updates as necessary to fire prevention codes and statutes, including those regulating utilities, railroads, small engines and other categories of equipment use that contribute to fire ignition.	Ongoing	CAL FIRE and OSFM staff are participating in PUC regulatory and mapping efforts around powerlines, post fire analysis.
<b>j)</b> Actively investigate all wildland fires. For those resulting from negligent acts, pursue appropriate civil and/or criminal actions, including cost recovery.	Exist	Civil Cost Recovery continues to successfully collect suppression recovery costs.
<b>k)</b> Analyze trends in fire cause and focus prevention and education efforts to modify behavior and effect change.	Ongoing	Each CAL FIRE Unit has completed an Ignition Analysis that identifies fires causes and trends, Unit Fire Plans, CAIRS data.

**Goal 5:** Develop a method for integration of fire and fuels management practices with landowner priorities and multiple jurisdictional efforts within local, state and federal responsibility areas.

Objectives	Performance Measures Exist/Needed	Actions/ Accomplishments
<b>a)</b> Increase support of landowner-initiated hazardous fuels reduction using all available authorities, including the Vegetation Management Program (VMP).	Exist	Cap & Trade Grants, SRA Fire Prevention Grants, and Fire STEPP BCP provides funding to support fuel reduction projects.
<b>b)</b> Work to remove regulatory barriers that limit hazardous fuels reduction activities.	Exist	AB 744 developed a pilot project to assess the existing Forest Fire Prevention Exemption.
<b>c)</b> Promote and enhance programmatic documents that assist and streamline regulatory processes.	Ongoing	CAL FIRE's VTPEIR has received public comment. Staffs are working with stakeholders to address comment before final hearings at BOF.
<b>d)</b> Assist collaborative partners by educating, improving grant capacity and other means that provide tools to achieve fuels reduction work on the landscape.	Ongoing	Significant grant programs through Cap & Trade funding, and SRA Fire Prevention Program, and WSFM WUI Grant Program will enable projects for several years.
<b>e)</b> Promote forest and rangeland health and hazardous fuels reduction. Improve utilization of all forest products, including small logs, urban green waste and biomass.	Ongoing	CAL FIRE participated in biomass utilization study; contracted for study of urban forest inventory, Tree Mortality Taskforce initiatives.
<b>f)</b> Increase public education and awareness in support of ecologically sensitive and economically efficient vegetation management activities, including prescribed fire, forest thinning and other fuels treatment projects.	Ongoing	Grants programs identified above will also enhance education and treatment activities, educational activities by Tree Mortality Task Force.
<b>g)</b> Promote the development of multi-agency/landowner fuels reduction policies and activities at the watershed and fire-shed level.	Ongoing	CAL FIRE has entered into a Memorandum of Understanding with multiple agencies and organizations for the purpose of increasing the use of fire to meet ecological and other management objectives.
<b>h)</b> Support the availability and utilization of CAL FIRE hand crews and other CAL FIRE resources, as well as public and private sector resources, for fuels management activities, including ongoing maintenance.	Exist	CAL FIRE hand crews continue as a valuable source of fuels management activities and long term maintenance of these projects.
<b>i)</b> Support efforts to restore the ecological role of fire in areas and upon jurisdictions where doing so is consistent with local land management objectives and does not present an unacceptable risk to human health and safety or security of adjacent ownerships.	Ongoing	Ongoing development of the Forest Carbon Plan, along with the Memorandum of Understanding with multiple agencies and organizations for the purpose of increasing the use of fire to meet ecological and other management objectives.

**Goal 6:** Determine the level of fire suppression resources for adequate protection of the values and assets at risk identified during the planning process.

Objectives	Performance Measures Exist/Needed	Actions/ Accomplishments
<p><b>a)</b> Maintain an aggressive wildland fire initial attack policy that places a priority on protecting lives, property and natural resources. At the same time consider suppression strategies that incorporate values and assets at risk, as well as cost factors wherever possible.</p>	Ongoing	CAL FIRE is staffing as many engines as possible with a fourth person, and making operational adjustments to maintain effective initial attack capabilities.
<p><b>b)</b> Develop criteria for determining suppression resource allocation based on elements such as identified values and assets at risk, ignition density, vegetation type and condition, as well as local weather and topography.</p>	Ongoing	Preliminary work on resource allocation continues, with associated research on priority landscapes and rangeland assessments.
<p><b>c)</b> Initiate studies and analyses to identify appropriate staffing levels and equipment needs commensurate with the current and projected emergency response environment.</p>	Ongoing	CAL FIRE continues to study coordination of fire danger rating system commensurate with appropriate staffing levels
<p><b>d)</b> Seek to increase the number of CAL FIRE hand crews for use in fighting wildland fires and other emergency response activities.</p>	Ongoing	Ongoing discussions with CDCR to investigate maintaining crew staffing levels, coordination with CCC on opening Butte Fire Center with 4 additional CCC Crews.
<p><b>e)</b> Initiate and maintain cooperative fire protection agreements with local, state and federal partners that value the importance of an integrated, cooperative, regional fire protection system and deliver efficient and cost effective emergency response capabilities beneficial to all stakeholders.</p>	Ongoing	CAL FIRE continues to be a strong partner within FIRESCOPE, and actively engages in coordinated plans for DPA boundaries with local, state, and federal partners.
<p><b>f)</b> Improve policies and strategies to minimize injuries or loss of life to the public and emergency responders during emergency response activities throughout the state.</p>	Ongoing	Continuous improvements to deployment strategies, safety gear, and education from lessons learned through improved Blue and Green Sheet information.
<p><b>g)</b> Ensure all firefighters are provided the appropriate training, equipment and facilities necessary to successfully and safely meet the increasingly complicated and challenging fire and emergency response environment.</p>	Ongoing	The 6 Incident Management Teams across state continue to improve training and staffing levels of qualified personnel. Improved training curriculum throughout the Department.
<p><b>h)</b> Continue to evaluate and implement new technologies to improve firefighter safety, situational awareness and emergency response effectiveness.</p>	Ongoing	Development of SCOUT Program, installation of AVL devices in all fire engines, new ELA with ESRI for standardized GIS platforms, creation of electronic D-Space and DINS programs.
<p><b>i)</b> Provide for succession planning and employee development at all levels within CAL FIRE to maintain emergency response leadership capabilities, administrative management skills and pre-fire planning expertise.</p>	Ongoing	CAL FIRE implemented a Strategic Plan for the Department that in part addresses these issues. Supervision 5 is now being presented annually to increase leadership roles and succession planning.
<p><b>j)</b> Effectively engage and train employees across all disciplines to address both planning and emergency response utilizing a “total force” approach.</p>	Exist	Increasing use of cross-program training and response improves knowledge and expertise, improvements in Fire Danger Operating Plans.

**Goal 7: Address post-fire responsibilities for natural resource recovery, including watershed protection, reforestation and ecosystem restoration.**

Objectives	Performance Measures Exist/ Needed	Actions/ Accomplishments
<b>a)</b> Encourage rapid post-fire assessment, as appropriate, and project implementation to minimize flooding, protect water quality, limit sediment flows and reduce other risks on all land ownerships impacted by wildland fire.	Exist	CAL FIRE OSFM has implemented standardized Damage Inspection Program, analyzing pre-fire projects and environmental issues. Post Fire Watershed Emergency Response Teams can deploy to assess watershed issues.
<b>b)</b> Work with landowners, land management agencies and other stakeholders across the State to design burned area rehabilitation actions that encourage salvage and reforestation activities, create resilient and sustainable landscapes, and restore functioning ecosystems.	Ongoing	FRAP has embarked upon a long term study of Boggs Mountain State Forest to assess damage and reforestation efforts after the Valley Fire in Lake County. Incident Management Teams address post fire recovery issues with landowners.
<b>c)</b> Effectively utilize available resources, including CAL FIRE hand crews, to accomplish restoration and protection activities.	Exist	Fire STEPP BCP provided funding source for CAL FIRE crews to complete fire prevention projects.
<b>d)</b> Assess the effects of pre- and post-fire treatments to refine best management practices.	Ongoing	New electronic data collection program for Defensible Space and post fire Damage Inspections will validate PRC 4290 and 4291 regulations, and provide centralized databases to look at statewide data in real time.
<b>e)</b> Assist landowners and local government in the evaluation of the need to retain and utilize features (i.e., roads, firelines, water sources) developed during a fire suppression effort, taking into consideration those identified in previous planning efforts.	Exist	CAL FIRE Incident Management Teams continue to collect the locations of fire suppression features used or created during incidents. Land Use Planning Program has engaged local jurisdictions to address these issues through long term Safety Element language.
<b>f)</b> Aid landowners in recently burned areas in developing and implementing vegetation treatment plans to manage the re-growth of fuels to maintain reduced hazardous conditions.	Ongoing	Cap & Trade grants will provide funding for reforestation projects. SRA Grant Program can help maintain projects over the long term.
<b>g)</b> Promote the maintenance of a native species seed bank and seedling production capacity to provide the availability of appropriate tree species for reforestation within all of the State's diverse seed zones.	Ongoing	Funding for Magalia nursery was eliminated. CAL FIRE's Davis seed bank remains.
<b>h)</b> Use after-action reports to evaluate and implement new technologies and practices to improve future firefighting efforts.	Ongoing	Increasing efforts by Incident Management Teams and other initial attack resources to gather and report this information for further analysis. New technology includes the SCOUT Program, smart phones and tablets to report information to incident Situation Unit, IR flights for fire intelligence, and the future use of unmanned aerial devices.