Report to Santa Clara County Board of Supervisors

WILDFIRE RISK & RESPONSE

April 2019

BACKGROUND

At the December 4, 2018 Board of Supervisors meeting, a board referral was given to the County Fire Chief due to the implications of the huge increase in wildland fires in the region and the potential risks to Santa Clara County. Specifically, the referral requested information on tools, technology, strategies, policies, procedures and resources available in the County as well as what additional resources are needed to protect our community. The Santa Clara County Fire Department (Central Fire Protection District) Fire Chief was asked to coordinate with the other fire districts (Los Altos Hills and South Santa Clara County), the Roads and Airports department, and County Parks and report back to the Board no later than April, 2019.

The Board's request came shortly after the Camp fire destroyed the communities of Concow, Magalia, and Paradise in Butte County, ending the deadliest and most destructive year of wildland fires in California history. More than 20,000 structures were destroyed, over 1.9 million acres burned, and 98 people were killed. The Camp fire alone is estimated to have cost over $120 million to contain[1] and burned more than 18,000 structures, becoming California's most destructive wildland fire ever. This is remarkable considering just 13-months prior the Tubbs fire in Sonoma County had been the most destructive fire in California history burning 5,636 structures and killing 22 people. These fires fueled by dense, dry vegetation and warmer, drier weather have unfortunately become increasingly more common over the last several years and have resulted in rising suppression costs. In fact, the last ten fire seasons have produced 7 of California's most destructive wildland fires (Table 1).

Table 1. Most Destructive California Wildland Fires

Incident	Acres	Structures	Deaths	Date
Camp Fire	***153,336***	***18,804***	***86***	***Nov 2018***
Tubbs	***36,807***	***5,636***	***22***	***Oct 2017***
Tunnel	1,600	2,900	25	Oct 1991
Cedar	273,246	2,820	15	Oct 2003
Valley	***76,067***	***1,955***	***4***	***Sep 2015***
Witch	197,990	1,650	2	Oct 2007

[1] Camp Fire, Incident Status Summary (ICS-209), November 25, 2018

Woolsey	***96,949***	***1,643***	***2***	***Nov 2018***
Carr	***229,651***	***1,604***	***8***	***Jul 2018***
Nuns	***54,382***	***1,355***	***3***	***Oct 2017***
Thomas	***281,893***	***1,063***	***2***	***Dec 2017***

Source: California Department of Forestry and Fire Protection

It is clear we are seeing unprecedented fire behavior and destruction and need to take immediate action to reduce our risk and ensure Santa Clara County can respond effectively to the, "new normal."

To do this I recommend establishing a County Wildland Fire program, adopting the Community Wildfire Protection Plan (CWPP) annexes 1, 2, 4, 13, 18, and approval of a 2-year workplan for the newly established Wildland Fire Program with a focus on operationalizing the CWPP. A Wildland Fire Program within the County Fire Marshal's Office staffed with a program manager/interagency coordinator, a pre-fire planner and a Senior Deputy Fire Marshal will serve as the foundation of the workplan and provide countywide coordination amongst the many stakeholders. In addition, the program will immediately develop a best practices report summarizing the county level wildland fire preparedness efforts in other counties (Alameda, Marin, Santa Barbara and Ventura Counties) to ensure our long-term strategy is based on the combined experience of our partners throughout the State. Specific recommendations include:

- The creation of a County Wildland Fire Program within the County Fire Marshal's Office to coordinate a unified approach to wildland fire risk reduction countywide, including program funding out of the general fund and workplan authorization (Attachment B – Workplan).
- Board adoption of all Community Wildfire Protection Plan Annexes (Attachment C – CWPP incl. Annex 1, 2, 4, 13, 18) over which the County has authority.
- Funding for one Type 6 fire engine and one brush masticator tractor to accelerate implementation of Department of Parks and Recreation hazardous fuels reduction projects.
- Establish a policy for effective, integrated roadside vegetation management (fire fuel reduction) for County roadways, including chemical herbicide application and mowing in areas designated as high or very high fire hazard severity zones as defined by the California Board of Forestry and Fire Protection, and authorize the administration to

provide exemptions for the use of effective, economical pre- and post-emergent herbicide on roads in the designated high fire areas.

Funding these four recommendations would have a FY2019-20 impact to the general fund of $1,211,511 recurring and $437,500 in one-time funds (Attachment D, Detailed Costs). The detailed wildland fire program within this report, if implemented, will have a positive impact on seniors and children to the extent that improving wildland fire preparedness and response will enhance public safety. Seniors are often amongst the most vulnerable populations in our communities, particularly during emergencies that require evacuations.

The "New Normal"

Unfortunately, recent climate reports forecast our risk to wildland fire is increasing. According to the recently published, California's Fourth Climate Change Assessment: California's Changing Climate 2018 (Attachment E), "the science is highly certain that California will continue to warm and experience greater impacts from climate change in the future." The report forecasts the area burned by wildland fire will increase as a result, and the last few fire seasons lend support to the prediction. Warmer, drier weather and dense vegetation adjacent to our communities are magnifying our historic wildland fire risk. This phenomenon can best be illustrated in the equation shown below.

FUEL + WEATHER + WILDLAND URBAN INTERACE = DESTRUCTIVE FIRES

Within the equation, historic fire suppression efforts and land preservation have created an abundance of dry, dense vegetation on our protected lands that are adjacent to communities. Hotter, drier weather driven by climate change has further stressed the vegetation leading to fires that grow explosively under certain weather conditions and burn through communities. The November 2018 fires in Northern California are currently estimated to have resulted in $11.4 billion in insured losses.[2]

While the County has limited ability to influence the changing weather conditions, it can take a more active role in managing the tremendous fuel loading present in the wildland areas. To provide a sense of the magnitude of the work to be done, in 2018 CAL FIRE's Director established their goal for treatment of state responsibility area (SRA) lands was approximately 40,000 acres statewide, with 20,000 acres of prescribed fire and 20,000 acres of fuels treatment. It is estimated that between 1999-2009 the state was only able to achieve approximately 13,000 acres of fuels management per year, statewide. While CAL FIRE has been able to increase the pace of fuels treatment, Scott Stephens, a wildland fire expert from the UC Berkeley Center for Fire Research estimated in 2015 that California, "must increase

[2] http://www.insurance.ca.gov/0400-news/0100-press-releases/2019/release14-19.cfm

fuel-reduction efforts to ten times the area that is currently treated."[3] It is also believed a more proactive approach to fuels reduction and prescribed fire may generate lower carbon emissions than the larger, uncontrolled fires.[4]

Furthermore, each CAL FIRE unit in the Northern Region, including the Santa Clara Unit, has been tasked with treating a minimum of 2,000 acres of the 40,000-acre statewide goal. If the Santa Clara Unit, which covers portions of Alameda, Contra Costa, San Joaquin, Santa Clara and Stanislaus counties, completed all of the assigned vegetation management work in Santa Clara County, that would represent just 0.4 percent (2,000 / 554,200) of the 554,200 acres of unincorporated wildland areas in the county.

It is clear that the state has responsibility for the SRA watershed areas, which make up most of the unincorporated lands, however, the county is responsible for land use planning and development that occurs within the Santa Clara County unincorporated areas. Over the last 30 years, the county has seen an increase in urban sprawl/development in the unincorporated wildland urban interface areas, which in turn, has increased the risk to those communities should a wildland fire occur. This is not unique to Santa Clara County as many counties across the state are taking a more active role in supporting and augmenting the limited state resources to protect their citizens who reside in fire-prone, unincorporated areas.

Despite significant efforts and spending to prevent future fires by the state, achieving greater vegetation management goals remains a significant challenge and cannot be accomplished by the state alone. To achieve greater vegetation management within Santa Clara County, greater coordination between local land owners, the state, local agencies responsible for fire protection and the County must occur.

Historical Wildland Fire Risk in Santa Clara County

As defined by the Probability and Consequence Matrix found on page 24 of Santa Clara County Fire Department's Standards of Cover (SOC) document (Attachment F), a fire within the wildland urban interface is categorized as a maximum risk event. This is based on an assessment of probability of an event occurring and the associated consequence. A maximum risk event indicates the potential for a severe loss of life, severe loss of economic value, large loss of property, or it poses special challenges for emergency responders. There are approximately 554,200 acres of unincorporated, wildland areas in Santa Clara County. Over 205,000 of these acres lie within the boundaries of the three dependent fire districts within the County and are considered dual jurisdiction where both the California Department of

[3] https://www.ppic.org/blog/managing-wildland fires-requires-new-strategies/
[4] https://fireecology.org/Resources/Documents/AFEs-Prescribed-Fire-Position-Paper-2013.pdf

Forestry and Fire Protection (CAL FIRE) and the local fire districts share jurisdictional responsibility (Attachment G). The unincorporated wildland areas are divided into two main regions that differ from a fuel, weather and development perspective; the east foothills / Mount Hamilton range and the west foothills / Santa Cruz mountains. The vast majority of this acreage is categorized by CAL FIRE's Fire and Resource Assessment Program (FRAP) as High or Very High Fire Hazard Severity zones (Attachment H).

The FRAP assessments, adopted in 2007, are consistent with the significant, recorded fire history in Santa Clara County. Most recently, in September 2016, the Loma Fire burned 4,474 acres, and destroyed 28 structures. A consultant hired by the Santa Clara Valley Open Space Authority estimates the economic loss associated with this fire between $29 to $34.5 million.[5] While small in comparison to recent fires in other parts of California, it is one of many examples indicative of Santa Clara County's susceptibility to wildland fire. Other notable fires include those shown below.

Table 2. Wildland Fires in Santa Clara County

Year	Name	Location	Acreage	Structures Destroyed	Est. Suppression Cost (inflation adjusted)
2016	Loma Fire	Loma Prieta / Casa Loma	4,474	28	$17.3million
2008	Summit Fire	West / Santa Cruz Mtns	4,270	99	$17.5million
2007	Lick Fire	East / Henry Coe SP	47,760	24	$11.5million
2003	Jump Fire	East / San Antonio Valley	4,894	0	N/A – Managed as part of a complex
2002	Croy Fire	West / Santa Cruz Mtns	3,127	46	$9.7million
1999	Malech	East / San Jose foothills	1,200	0	N/A
1997	Cats	Los Gatos / HWY 17	15	6	N/A

[5] Open Space Authority Report/Earth Economics: The Economic Impact of the 2016 Loma Fire FINAL 20170505_2.pdf

1985	Lexington Fire	West / Santa Cruz Mtns	14,000	42	N/A
1985	Liddicoat	Los Altos Hills	200	9	N/A

Current Planning and Preparedness

Due to the jurisdictional complexity involved, planning for wildland fires in the unincorporated areas of the county involves coordination amongst a number of stakeholders and landowners (Attachment I). Aside from the communities affected by the risk, the primary stakeholders include the local fire districts, open space / park agencies, and CAL FIRE. The county's dependent fire districts (Central, Los Altos Hills, and South Santa Clara County) are working collaboratively with these stakeholders to reduce the risk to the community. Specifically, interagency planning has historically focused on response coordination, tactical preplans, and mitigation strategies.

From a response perspective, all of the fire departments in Santa Clara County cooperate through the local and statewide mutual aid agreements to respond in a coordinated fashion should a large wildland fire occur, recognizing a large wildland fire will exceed the ability of any agency's ability to mitigate the emergency on its own. The Santa Clara County Mutual Aid Plan (xsc.sccfd.org) guides the coordinated response of all fire agencies within the county. This plan is exercised monthly and includes an annual wildland fire response exercise. In 2018, 6-days of drills were conducted in the San Jose and Los Altos Hills wildland urban interface areas.

The fire districts have also worked closely with CAL FIRE to develop tactical pre-plans for communities at risk. There are currently three completed pre-plans for the East and West Lexington basins and the Holiday Lake Estates/Jackson Oaks area of Morgan Hill, and a fourth has been started to cover the Saratoga basin. The pre-plans are tactical documents that provide identified resources for an incident commander to quickly and safely deploy resources and evacuate civilians to safe areas.

With respect to mitigation, there are two principal planning documents completed in the last few years to quantify the wildland fire risk and a number of public education campaigns have been delivered to inform the public. The planning documents are the Santa Clara County Operational Area Hazard Mitigation Plan (HMP, Attachment J) and CWPP. The HMP is important because it can be incorporated as a component of a community's general plan to ensure future development is consistent with the community's risk. CWPPs, authorized and defined in Title I of the Healthy Forests Restoration Act, are important because they identify

specific mitigation projects (Attachment K – CWPP Annex 2, Chapter 2, page 32) to reduce wildland fire risk to communities, municipal water supplies, and other at-risk land. The Santa Clara County FireSafe Council and CAL FIRE were integral in the completion of the CWPP as were many other agencies (Attachment L) within the county.

In addition to the planning documents, to increase public awareness of the wildland fire risk County Fire launched a Ready, Set, Go (RSG) campaign in 2018 based on the national standard for wildland fire preparedness and education. The program is also used by the other county fire districts, CAL FIRE and SCC FireSafe Council.

Current Resources Available

The basic premise driving response to wildland fires is to keep them small. Typically, the goal is to contain them at 10-acres or less and eliminate any threat to populated areas. To accomplish this, staffing is constantly flexed (Attachment M) throughout fire season based on changing weather conditions, and an overwhelming response is launched to get as many fire engines, hand crews, bull dozers, and aircraft at scene in a timely manner. For example, under extreme weather conditions, both County Fire and CAL FIRE would dispatch a, "high," response to a reported wildland fire. This response would provide 14 fire engines, 4 chief officers, 2 bull dozers, 2 air tankers, 2 hand crews, 2 helicopters, and 1 air tactical supervisor (aka lead plane). The County Fire resources would be coming from local fire stations and the CAL FIRE resources would be coming from throughout the greater Bay Area region (Alameda, Contra Costa, San Benito, San Joaquin, San Mateo, Santa Clara, Santa Cruz, and Stanislaus counties).

In addition to the large initial response, a growing wildland fire would quickly require additional resources via mutual aid. Orders would be placed through Santa Clara County Communications and CAL FIRE's Emergency Command Center to request more fire engines, law enforcement and other specialized resources (bulldozers, aircraft and hand crews). While local resources would arrive quickly, many of the specialized resources, traveling from outside the county, could take hours to arrive. Also, despite the increase in the frequency and duration of fire season, many local fire departments have limited their mutual aid participation resulting in approximately 50% fewer local government resources available through the mutual aid system today than there were 15 years ago[6]. Consequently, outside assistance is not as robust as it once was, and as seen in November of this year, when fires

[6] CAL OES

develop simultaneously in different parts of the State, the availability of wildland firefighting resources via mutual aid will quickly be limited.[7]

Tables 3 and 4 show the fire engines and specialized wildland fire resources available in Santa Clara County, respectively.

Table 3. Fire Engines in Santa Clara County (not all are available for mutual aid)

Type 1 Engine	Type 3 Engine	Type 6 Engine
90+	26	15

*Note – this table does not include "reserve" status units

Table 4. Specialized Wildland fire Resources available in Santa Clara County

Water Tender	Dozer	Helicopter	Hand Crews
7	1*	1*	0

*CAL FIRE Dozer and Copter are state resources. The dozer is stationed in Morgan Hill and the helicopter is stationed near the Lexington Reservoir.

Moving Forward in Santa Clara County

Agencies throughout California are re-evaluating their capabilities to address this, "new normal," with a strategic focus on three areas: technology, risk reduction, and response.

Technology (for faster fire detection in remote areas and rapid alert & warning)

With respect to technology, there are a number of tools being deployed in an effort to better predict and report wildland fires. GIS-based computer simulators allow planners and firefighters to better understand fire spread and behavior under changing fuel and weather conditions. Advanced camera systems provide for more rapid detection of wildland fires in more remote, unpopulated areas. The Marin County Fire Department, along with other North Bay agencies, recently deployed the ALERT Wildfire[8] camera system. The ALERT Wildfire system is a collaborative project between University of Nevada at Reno, University of California San Diego / Scripps Institute, and the University of Oregon that provides state-of-the-art fire cameras to help firefighters discover/locate/confirm fire ignition, scale response appropriately, monitor fire behavior and increase situational awareness. This is the most common system deployed in the State of California, with approximately 70 cameras installed

[7] https://www.latimes.com/local/lanow/la-me-woolsey-resources-20190106-htmlstory.html
[8] www.alertwildland fire.org

to date. County Fire has been working with CAL FIRE and the Santa Clara County FireSafe Council (SCC FireSafe) on a plan to install 10 ALERT Wildfire cameras in the county. The equipment would be offered at no cost to the County, but the County would be responsible for providing suitable communications sites for the equipment. County Counsel is currently supporting this effort and working with Scripps to get an MOU in place as soon as possible so we can begin installing this new technology within the County.

Additionally, post incident information from both the North Bay fires in 2017 and the Camp fire in 2018 highlighted the vulnerabilities of emergency alerting technology and the consistent application of its capabilities. Between the need to order firefighting resources and issue evacuation information, dispatch centers were overwhelmed. In response, Sonoma County has created an Alert & Warning Coordinator with specific responsibility for ensuring all members of the community receive prompt notifications during life threatening emergencies. While Santa Clara County is currently making significant upgrades to the technology and personnel at its 9-1-1 Communications Center, upgrading one Dispatcher III position to a supervisory position (Senior Dispatcher) would provide the staffing necessary to dedicate an Alert & Warning Coordinator.

Response (building greater regional capacity for specialized resources)

With respect to response, as mentioned previously, the effectiveness of the firefight will be predicated on the ability to quickly assemble a large firefighting force to keep the fire small. Agencies throughout Southern California and CAL FIRE are investing significant upgrades to their aerial firefighting capabilities in response. In fact, CAL FIRE, Los Angeles County, San Diego City, Santa Barbara County, and Ventura County are all in the process of substantially upgrading their aerial firefighting capabilities with the purchase of Firehawk helicopters. (See Table 5.)

Picture 1. Ventura County Fire Department, Firehawk helicopter

Table 5. Recent Firefighting Aircraft Purchases

Agency	Model	New or Military Conversion	Estimated Cost
CAL FIRE	Firehawk	New	$20 million
LA County	Firehawk	New	$14.8 million
San Diego City	Firehawk	New	$19.8 million
Santa Barbara County	Firehawk	Refurbished	$6.4 million
Ventura County	Firehawk	Refurbished	$7.4 million

A number of local government fire departments, such as Alameda County (Table 6) and Sacramento Metropolitan Fire District, have also added bulldozers to their fleets over the last few years to increase the local initial attack capabilities. Bulldozers provide the ability to rapidly build fireline by scraping and pushing away vegetation. This ability saved lives during the 2018 Camp Fire when bulldozers were able to rapidly construct Temporary Refuge Areas (TRAs) for those people that were unable to evacuate. They are also useful in the construction and maintenance of fuel breaks and fire roads, and water diversion during flood conditions.

Picture 2. Alameda County Fire Department Dozer

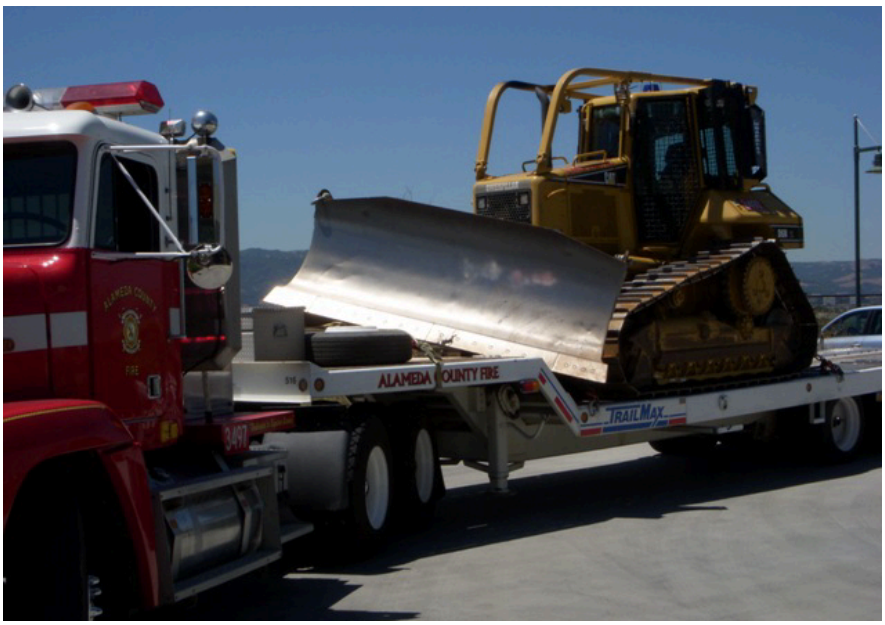


Table 6. Alameda County Fire Department

Agency	Model	Estimated Cost
Alameda Co FD	Dozer – Caterpillar D6N XL with track extension (CAL FIRE spec)	$600,000
	Transport – Kenworth (Alameda Co spec)	$200,000
	Trailer – Murray Lowboy (Alameda Co spec)	$100,000
	Dozer Tender – Ford F350 with utility body	$75,000

While the local mutual aid system provides a well-tested avenue for deploying or pre-deploying firefighting personnel and engines, specialized resources such as bulldozers, hand crews and helicopters are not as readily available locally as they are in other parts of the state (Table 7). When compared to Southern California counties with more fire history, Santa Clara County has fewer of these response resources available nearby, particularly when viewed in the context of wildland acreage to protect. With climate forecasts predicting our weather to become more similar to Southern California, additional response capabilities should be considered.

Table 7. Specialized Wildland Firefighting Resources

Department	Water Tender	Bulldozer	Helicopter	Hand crews	SRA Acreage in County*
Alameda Co FD	2	1	0	0	246,200
Contra Costa FPD	1	1	0	0	193,400
Santa Clara Co Districts (Central, LAHCFD, So Santa Clara Co)	3	0	0	0	554,200
Marin Co FD**	3	1	0	2	199,600
Santa Barbara Co FD**	4	2	3	2	669,100

Ventura Co FD**	2	3	3	2	305,000
CAL FIRE SCU (Alameda, Contra Costa, Santa Clara, San Joaquin, Stanislaus)***	0	3 (1 in Santa Clara County)	1 (3,000,000-acre response area)	0 (closest crews from Boulder Creek, Suisun City, or Marin Co)	1.3-million

*Source: CAL FIRE, 2016

**Contract counties partially funded by CAL FIRE

***All CAL FIRE resources are dedicated to the "State mission" and will be deployed based on State need

Risk Reduction

While new technology and response capabilities will provide tools to strengthen our response, the most impactful action that can be initiated immediately, is accelerating our efforts to reduce the risk. While County Fire and our partners have been working to address wildland fire preparedness and education for years, the impacts of drought and climate change have added a new urgency to this work and there are a number of steps that can be taken to do this.

First, the CWPP provides the risk mitigation framework. It is a tool for identifying, prioritizing, and tracking wildland fire mitigation measures across complex jurisdictional boundaries. To date, the only cities that have formally adopted the plan are Monte Sereno, Palo Alto, and Saratoga. The Santa Clara County Fire Chiefs Association (SCCFCA) is encouraging all jurisdictions with a local annex in the CWPP to formally adopt their annex. As a member of the SCCFCA and the County Fire Chief / Fire Marshal, County Fire recommends adoption of all annexes over which the County has authority.

Second, County Fire will continue to reinforce defensible space requirements in 2019 by enhancing education and inspection programs. Education will focus on an expansion of the RSG program and partner with the SCC FireSafe Council to encourage more FireWise communities. Eleven RSG community workshops are already scheduled to occur in County Fire's jurisdiction over the next several months, and SCC FireSafe, County Fire, and South Santa Clara County Fire are currently working with communities to achieve FireWise certification. These programs will run concurrently with County Fire's defensible space

inspection program. Currently, County Fire is responsible for inspecting 7,378 parcels within the incorporated boundaries of the city's served. CAL FIRE inspects some of the 13,220 unincorporated parcels within the boundaries of the dependent fire districts for defensible space compliance and in 2018 each Unit had been tasked with achieving a 35% inspection completion target. With the addition of a Senior Deputy Fire Marshal in the County Fire Marshal's Office, greater compliance can be achieved. A common county-wide standard may also strengthen the County's ability to pursue reimbursement from the State for defensible space inspections and promote government efficiency. This would be consistent with Policy #3 of the County's 2019 Fire Protection Legislative Policies.

Finally, the County can take a leadership role in addressing hazardous fuels on county-owned lands, such as road right-of-ways and parks.

County Roads (Roads) maintains 630 miles of unincorporated roads that serve as vital transportation routes during emergencies. Many of these roads are located in high and very high fire hazard severity zones. Unfortunately, however, vehicles traveling in rural areas are a common cause of wildland fires (2016 – 281 fires caused by vehicles)[9] due to the proximity of receptive fuels (grass and weeds) adjacent to the roadway.

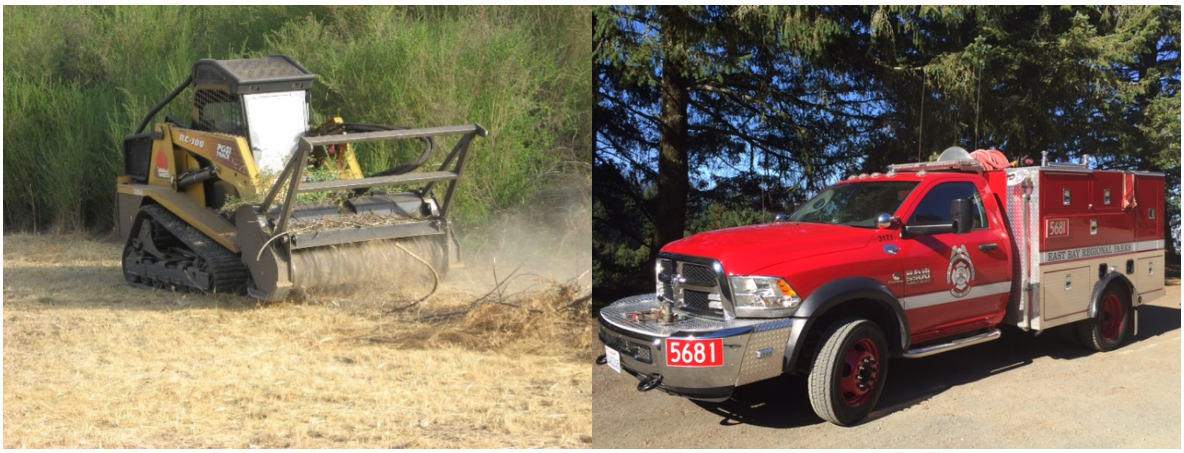
Since the adoption of the County Integrated Pest Management Program (IPM)(Attachment N) in 2002 County Roads and Parks have used an integrated approach to vegetation management. A combination of mowing, mulching and herbicides have been employed to control weeds and grasses adjacent to roadways. Unfortunately, the use of mowers has been strictly curtailed due to the possibility of a mower sparked fire. Currently mowing may only be employed during specific humidity ranges, and with accompanying fire watch personnel. This is costly and inefficient. Also, in recent years the number of effective herbicides allowed by the Safe Drinking Water and Toxic Enforcement Act of 1986 (Prop. 65) has dwindled and those that have been approved have had poor effectiveness in our County's roadside and parkland environments. As a result, an effective herbicide must be identified and approved through the IPM exemption process. Roads staff and IPM staff have been working together on identifying effective herbicides for County Roads in high and very high fire areas. At this point it is apparent that the only effective, efficient and economical herbicides available will require an exemption from the IPM ordinance. All herbicides used through an exemption process would be applied in conformance with the manufacturers' recommended practices and noticed in conformance with Proposition 65 regulations.

[9] Source: CAL FIRE

Authorizing an exemption within the County's IPM program for the use of pre- and post-emergent herbicide, would allow Parks and Roads to limit the growth of light flashy, fuels, which are readily ignitable during hot, dry weather, in designated areas. Herbicides would be applied in conjunction with mowing and mulching to provide an integrated approach to fuel management, and would be approved by the County IPM coordinator.

Furthermore, for Parks the IPM exemption would play a small role in their overall natural resource management strategy. Parks is responsible for managing 52,000 acres of County parklands, including forests and grasslands located in the wildland urban interface. Park's comprehensive wildland fire risk reduction efforts focus on hazardous fuel reduction projects such as maintaining defensible space around structures and roadways, creating and maintaining fuel breaks along roads and trails, and managing vegetation in public use areas (i.e., campgrounds and picnic areas). This work is mostly done manually, through a combination of Parks staff and contract labor (such as Conservation Corps or CAL FIRE crews). Park's implementation of wildland fire prevention efforts is dependent on the availability of equipment and labor resources. In addition to the selective use of herbicide in designated areas, Parks has identified three priorities to accelerate its implementation of hazardous fuel treatment: 1) purchase of a Type VI fire engine ($150,000) for wildland fire suppression and fire prevention projects; 2) purchase of a tractor masticator ($75,000) for establishing and maintaining fuel breaks, and; 3) identify additional labor sources to complete planned fire risk reduction projects.

Picture 3: Parks – Skid Steer Tractor Masticator and Type VI Fire Engine



Hand crews such as those staffed by the Conservation Corps and CAL FIRE have historically been used to assist with fuels reduction projects. However, as a result of the massive fuel reduction workload statewide and a reduction in the overall number of CAL FIRE crews (164

staffed out of 196 capacity[10]), these resources are not as readily available as they once were. There are also no firefighting hand crews available locally, within Santa Clara County. The addition of a fuels crew similar to the program utilized by the Marin County Fire Department (Table 8), would provide significant additional capacity to conduct hazardous fuels reduction county-wide. Fuels crews would consist of 12 seasonal employees capable of clearing brush, assisting with prescribed fire projects, constructing fuel breaks in areas inaccessible to mechanized equipment, defensible space inspections, and would enhance local wildland fire initial attack capabilities.

Table 8. Marin County Fire Department / Mt. Tam Crew*

Agency	Personnel Structure	# Personnel
Marin Co FD	Crew Superintendent / Battalion Chief	1
	Crew Supervisor	1
	Seasonal Firefighters	12

*Recent partnership with National Park Service will add a second crew

Furthermore, the State of California recently introduced the availability of approximately $1-billion in funds[11] available over the next 5-years to assist with fuels reduction projects. Some of this funding has recently been approved for a fuel reduction project along Highway 17. (Notably – this project must be completed by December 2019.) Having local capacity for these types of projects will allow the County to be more competitive in application for future grants as more local resources will be available to complete the work.

Summary

Like much of California, Santa Clara County is at risk from wildland fires. As a result of climate change, this threat is forecasted to increase. Our region is forecasted to develop Southern California weather, but our open spaces are filled with Northern California fuels. While Santa Clara County's fire districts and all of our partner agencies have cooperated to plan and prepare, given recent fire behavior and climate change impacts, those efforts may not be sufficient to address the changing need. As evidenced by the last few fire seasons, it is clear we are seeing unprecedented fire behavior and destruction and need to take immediate action to reduce our risk and ensure Santa Clara County can respond effectively to the, "new normal."

[10] CAL FIRE Communications

To do this it is my recommendation that the Board consider the creation of a Wildland Fire Program within the County Fire Marshal's Office to coordinate wildland fire preparedness countywide.