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**INFORMATIONAL HEARING:
WILDFIRE AND EMERGENCY RESPONSE AND PREPAREDNESS**

Thursday, January 31, 2019
John L. Burton Hearing Room (4203)
10:00 a.m. or Upon Adjournment of Session

AGENDA

- I. Responses and recovery from recent disasters
 - Helen Kerstein, Principal Fiscal & Policy Analyst, Legislative Analyst's Office (LAO)
 - Mark Ghilarducci, Director, Office of Emergency Services (Cal OES)
 - Scott Smithline, Director, Department of Resources Recycling and Recovery (CalRecycle)
- II. 2019-20: Wildfire prevention and response
 - Matt Almy, Assistant Program Budget Manager, Department of Finance (DOF)
 - Jessica Peters, Principal Fiscal & Policy Analyst, LAO
 - *Available for questions*
 - Thom Porter, Director of Department of Forestry and Fire Protection (CalFire)
 - Mark Ghilarducci, Director, Cal OES
- III. 2019-20: Disaster-readiness proposals
 - Josh Gauger, Assistant Program Budget Manager, DOF
 - Helen Kerstein, Principal Fiscal & Policy Analyst, LAO
 - *Available for questions*
 - Mark Ghilarducci, Director, Cal OES
- IV. Public Comment

Wildfire and Emergency Response and Preparedness

BACKGROUND: WILDFIRES

Wildfires are sweeping and destructive blazes that can occur in forestlands, grasslands, and brushlands. In California, wildfires have escalated significantly in severity over recent years, getting larger and more unpredictable. They often burn hot through the night (when they used to cool), racing up hillsides, and torching neighborhoods. Fires today burn twice as many acres and for twice as long as they did in the 1990s. Experts believe that a combination of factors will result in serious fire seasons for the indefinite future.

Among other factors, three primary reasons why California wildfires have become more catastrophic include: (1) the climate is becoming warmer; (2) more people are living in combustible places; and (3) there is more fuel for the fires to burn.

Scientists state that climate change is a central factor in creating the atmospheric ingredients that make wildfires like California's more extreme. Warmer global temperatures, driven by greenhouse gas emissions, have led to droughts, as well as more extreme heat waves that last longer. As the climate warms, the fuel conditions on the ground and increasing warm spells create opportunities for fire. Over the past generation, the fire season has grown at the front end by approximately 30 days and extended at the back end by about another 30 days.

In addition, the continued expansion of human development into previously undeveloped land plays a significant role in the destructiveness and deaths involved in recent wildfire events. As the state's population grows, ignition opportunities grow. On average, 95 percent of fires in California are caused by some form of human activity, such as: vehicle sparks, lawn mowers, faulty residential electrical connections, power lines, target shooting, fireworks, cigarettes, debris burns, campfires, and power equipment. For example, deadly fires in and around Sonoma County in 2017 were started by downed power lines. The Carr Fire in 2018 started when a truck blew out its tire and its rim scraped the pavement, sending out sparks. At the same time that human activity is the cause of most wildfires, more people are increasingly impacted by the damage from them as well.

Wildland-Urban Interface (WUI). WUI is the area where houses and wildland vegetation meet or intermingle, and where wildfire problems are most pronounced. WUI includes three main components: human presence, wildland vegetation, and a distance that represents the potential for effects (e.g., wildland fire and human activity) to extend beyond boundaries and impact neighboring lands. WUI is defined in two ways: (1) Intermix, where housing and vegetation intermingle; and, (2) Interface, where houses are in close proximity to the wildlands. The former is likely to find itself in the middle of a fire. The latter is susceptible to wildfires that spill over into neighborhoods.

When people build houses close to forests or other types of natural vegetation, it poses two problems related to wildfires. First, there will be more wildfires due to human ignitions. Second, wildfires that occur will pose a greater risk to lives and homes. They will be hard to fight, and letting natural fires burn becomes impossible. (Radeloff, V.C., D.P. Helmers, H.A. Kramer, M.H. Mockrin, P.M. Alexandre, A. Bar-Massada, V. Butsic, T.J. Hawbaker, S. Martinuzzi, A.D. Syphard, and S.I. Stewart. 2018. *Rapid growth of the U.S. Wildland Urban Interface raises wildfire risk*. Proceedings of the

National Academy of Sciences, 115(13): 3314-3319.) An estimated 54 percent of California ecosystems are fire dependent, meaning that fire is essential to the health of the most ecosystems. For example, some seeds need fire to germinate. Also, fires can clear a forest of underbrush, leaving ash and opening the forest floor up to sunlight. The resulting grasses, herbs, and regenerated shrubs provide food for many wildlife species. In addition, where the ground has a deep accumulation of fallen branches and dry litter, fires can reduce this debris and supply nutrients to the soil.

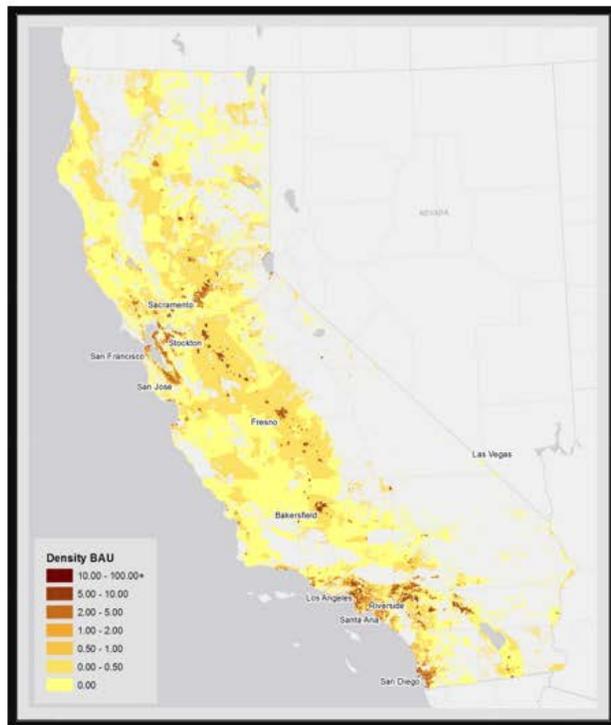
One-third of United States (US) homes are now built in WUI areas, which are the fastest-growing land use type in the continental US. WUI in the US grew rapidly from 1990 to 2010, in terms of new houses (from 30.8 to 43.4 million, or 41 percent growth) and land area (from 581,000 to 770,000 square kilometers). The vast majority of new WUI areas were the result of new housing (97 percent), not related to an increase in wildland vegetation.

California’s WUI zone grew 20 percent from 1990 to 2010, according to US Forest Service data. The number of housing units in WUI, has gone from 3.3 million in 1990 to 4.4 million in 2010.

The maps below show a side-by-side view of housing density in the state with fire hazard severity zones.

Housing Density in Business As Usual (BAU) Scenario *

Fire Hazard Severity Zones of California **



Source: Michael L. Mann, Peter Berke, Max A. Moritz, Eric Batillari, James G. Baldwin, Conor K. Gately, D. Richard Cameron, "Modeling residential development in California from 2000 to 2050: Integrating wildfire risk, wildland and agricultural encroachment," Land Use Policy, Volume 41, November 2014, Pages 438-452.

* Map of forecast change in housing density (2000–2050) for the business as usual scenario. Darker shades of maroon indicate a greater increase in the housing density for this period. Grey areas represent protected or otherwise undevelopable areas.

** FHSZ represent risk to housing due to the areas fuel rank and probability of wildfire event.

Demographic trends do not suggest slower future WUI growth. Furthermore, climate change projections indicate that conditions favorable for wildfire will occur more frequently in the future. Thus, increased wildfire ignition rates due to WUI expansion will initiate more wildfires in vegetation that is more

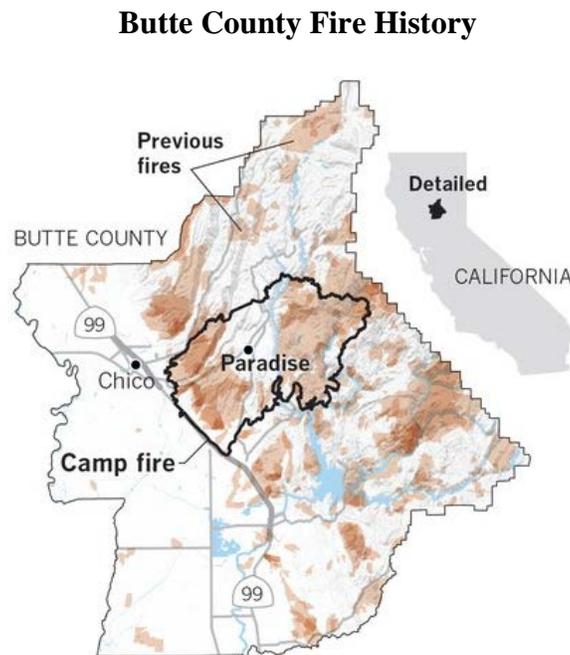
susceptible to fire spread, leading to more widespread fires and possibly more severe fire behavior. Researchers note that this suggests that WUI growth and climate change together will compound the existing problems with wildfires in the WUI.

WUI: The Town of Paradise in Butte County: Camp Fire. Paradise is a town in Butte County with a population of 26,682 and is the second largest city in the county after Chico. It is located in a forest at the base of the Sierra Nevada Mountains. The entire town is in a high-risk severity zone. Only 103 of more than 11,000 parcels were not “very high” fire risk according to county emergency plans, which were updated in 2013.

The town is located on a ridge at 1,700 feet above a canyon cut by the Feather River, and is basically at the dead end of two roads – the four-lane Skyway slicing west to Chico, and two-lane Highway 191, known locally as Clark Road, that goes south towards Oroville. There are only four exit routes running south; all are in fire corridors. In the 1960s, when Paradise’s building boom began, those roads would have served a population of about 8,000 people. During the Camp Fire, they were the primary escape route to safety for more than 26,000 people on the ridge.

According to Jonathan Pangburn, of the Department of Forestry and Fire Protection’s (CalFire’s) incident management team, the Camp fire that decimated Paradise in 2018 “was an urban conflagration. It was structure-to-structure-to-structure ignition that carried the fire through this community.” Over 18,000 structures were destroyed and 86 lives were lost in the Camp Fire.

The area around Paradise is not unfamiliar with wildfires. The shading on the map below of Butte County fire history shows that approximately 45 percent of the county east of Highway 99 has burned from at least one fire since 1911.



Sources: USGS, CalFire, OpenStreetMap, Nextzen (John Schleuss/Los Angeles Times)

In 1961, Butte County was caught in a wind-driven event of nearly 100 fires stretching from the bluffs to the Bay Area. Other massive fires in the area include ones in 1927, 1943, 1951, 1964, 1990, 1999, and 2000.

WUI: Santa Rosa: Tubbs Fire. In 2017, Santa Rosa’s Coffey Park neighborhood was destroyed overnight by the Tubbs Fire. According to Jacquelyn Chase, Ph.D., a professor in geography and planning at California State University, Chico and a Butte County planning commissioner, Santa Rosa residents affected by the Tubbs Fire, which destroyed approximately 5,000 homes, “were deep inside a suburb, but they were burned by embers coming from the hills not too far away.” Fire likely spread to these communities through burning embers carried by the wind – a phenomenon known as “spotting”.

Over the past 50 years, humans have been expanding the WUI. Although the areas that experienced the Camp Fire and Tubbs Fire have seen massive fires before, neighborhoods and cities were not as prevalent, or in some cases even present, decades ago. More development means higher chances of ignition, as well as more homes and people to defend. The more that people live in flammable places with lots of vegetation, the more fires there are. According to a UCLA study, an estimated one million new homes are expected to be built in California’s high-risk wildfire zones by 2050.

Wildfires: 2017 and 2018. Wildfires from the past two years have been devastating. In August, 2018, California was fighting approximately 17 large fires simultaneously, including the largest in California history at the time, the Mendocino Complex fire.

The following table shows the number of wildfires and acres burned in calendar years 2017 and 2018.

Number of Fires and Acres Burned

Interval	Fires	Acres
January 1, 2018 through December 30, 2018 (CalFire)	6,284	876,147
January 1, 2017 through December 30, 2017 (CalFire)	7,117	505,956
5-year average (same interval)	5,756	233,483
2018 Combined YTD (CalFire and US Forest Service)	7,571	1,671,203

Source: CalFire. Note: Statistics include all wildfires responded by CalFire in both the State Responsibility Area (SRA), as well as the Local Responsibility Area under contract with the department. Statistics may not include wildfires in SRA protected by CalFire’s contract counties. Final numbers will be provided in the annual Wildfire Activity Statistics Report (Redbook) once it is published.

Although there were fewer fires in 2018 than 2017, the number of acres burned in 2018 was 73 percent more than in 2017.

The speeds of some of these fires were notable. For example, at one point the Camp Fire burned 80 acres per minute and burned 70,000 acres in 24 hours. According to Neil Lareau, an atmospheric scientist at the University of Nevada, Reno, “We have a weather event, in this case a downslope windstorm, where, as opposed to the normal westerly winds, we get easterly winds that are cascading off the crest of the Sierra Nevada.” In addition, fire itself can create wind, further accelerating the conflagration. Another example is the Tubbs fire, which was pushed downhill at unusually high speeds by winds that sometimes exceeded 50 miles per hour. Burning embers blew ahead of the main front, leaping ahead and igniting new fires. Some wind-driven fires of 50-60 miles an hour can throw embers

that can ignite a roof a half of a mile or a mile in advance of the flaming front of the fire. Scott McLean, CalFire Deputy Chief, states: “It was like a blowtorch. We could’ve put every piece of equipment in its path and that fire would’ve gone over it, under it, through it. It wouldn’t have mattered.”

Below is a table reflecting major wildfires from the past two years.

Substantial and Destructive Wildfires in 2017 and 2018

FIRE NAME (Cause)	DATE	COUNTY	ACRES	STRUCTURES	DEATHS
Camp Fire (Under investigation)	Nov. 2018	Butte	153,336	18,804	86
Woolsey (Under investigation)	Nov. 2018	Ventura	96,949	1,643	3
Carr (Human related)	July 2018	Shasta & Trinity	229,651	1,604	8
Mendocino Complex (Under investigation)	July 2018	Colusa, Lake, Mendocino & Glenn	459,123	280	1
Redwood Valley (Under investigation)	Oct. 2017	Mendocino	36,523	546	9
Thomas (Under investigation)	Dec. 2017	Ventura & Santa Barbara	281,893	1,063	2
Nuns (Under investigation)	Oct. 2017	Sonoma	54,382	1,355	3
Tubbs (Private electrical system)	Oct. 2017	Napa & Sonoma	36,807	5,636	22
Atlas (Under investigation)	Oct. 2017	Napa & Solano	51,624	783	6

As shown in the table above, the Mendocino Complex fire was the largest wildfire recorded in California since 1932. Although the Camp fire was the 16th largest fire recorded in the state, it was by far the most destructive (18,804 structures) and deadliest (86 deaths).

Wildfires: Debris Cleanup. Wildfire debris removal programs are implemented under the leadership of the Governor’s Office of Emergency Services (Cal OES) and local governments. The California Department of Resources Recycling and Recovery (CalRecycle) is often tasked with overseeing and managing contractors and consultants to conduct debris removal operations on private properties, at no out-of-pocket cost to property owners.

Funding for disaster debris cleanup initially occurs through transfers to the Disaster Response-Emergency Operations Account within the Reserve for Economic Uncertainties. The account was created for reimbursement of extraordinary emergency or disaster response operations costs incurred by state agencies and state-requested local agencies as a result of a state of emergency proclamation by the Governor. Historically, a significant portion of these costs has eventually been reimbursed by the federal government. In addition, where applicable, insurance proceeds specifically dedicated for debris removal may offset costs.

The state-managed debris removal program has two phases: (1) removal of household hazardous waste, and (2) removal of other fire-related debris.

For Phase 1, the Department of Toxic Substances Control (DTSC) or another dedicated agency is responsible to:

- Clear properties of household hazardous waste, including propane tanks, compressed gas cylinders, and solvents.
- Assess properties for asbestos and remove bulk asbestos material.

For the Phase 2, CalRecycle is responsible for:

- Site assessment and documentation
 - Measure and record foundation, structures, debris, utility infrastructure, and property-specific hazards.
 - Obtain and evaluate soil samples to establish cleanup goals for the project; identify and remove remaining asbestos-containing materials.
- Debris removal
 - Remove all burnt debris, foundations, dangerous trees, and contaminated soil.
 - Conduct confirmation sampling.
 - Sample and analyze soil and compare results to cleanup goals.
- Erosion control measures
 - Implement stormwater best management practices to control sediment runoff and promote vegetation growth.
- Final inspection
 - Provide property owners with certification that verifies the lot is clean and eligible to receive a building permit.

For the Camp, Woolsey, and Hill fires, Cal OES, CalRecycle, DTSC, the Counties of Butte, Los Angeles, and Ventura, the US Environmental Protection Agency (US EPA), the Federal Emergency Management Agency, and other federal, state, and local agencies, are coordinating efforts to clear the debris caused by the most recent wildfires. State-managed debris programs have been established in Butte, Los Angeles, and Ventura counties to clear household hazardous waste and other fire debris from more than 14,000 properties destroyed by these fires. On December 3, 2018, US EPA and DTSC crews began Phase 1 for removal of household hazardous wastes. On November 28, 2018, CalRecycle crews began preliminary damage assessments.

Below is a table reflecting recent wildfires and CalRecycle debris removal projects.

CalRecycle Coordinated Wildfire Debris Removal Projects (2017 - 2018/19)

Incident	Year	Properties	Duration	Tonnage Collected	Cost (In Millions)
Detwiler Fire: Mariposa County	2017	113	8 weeks	28,368	\$9.8
Helena Fire: Trinity County	2017	67	6 weeks	21,972	7.6
Wind Fire: Nevada, Yuba & Butte Counties	2017	255	6 weeks	73,177	20.1
Sulphur Fire: Lake County (Gooseneck Point)	2017	12	4 weeks	252	1.4
Thomas Fire: Ventura County	2018	672	12 weeks	213,512	65.1
Klamethon Fire: Siskiyou County	2018	49	6 weeks	14,000*	5.1*
Carr Fire: Shasta County	2018	1,046	16 weeks*	540,000*	100*
Mendocino Complex: Lake County	2018	141	12 weeks*	42,000*	14.1*
Pawnee Fire: Lake County	2018	15	6 weeks*	2,800*	1.7*
Camp Fire: Butte County	2018/19	14,000*	12 months*	4.9 million**	1,800*
Woolsey/Hill fires: Los Angeles and Ventura Counties	2018/19	1,300*	16 weeks*	350,000*	110*

Source: CalRecycle.

* Estimated

** Updated per information in Invitation for Bid dated 1/16/19

Costs for cleanup range from \$1.4 million (Sulphur Fire in Lake County) to an estimated \$1.8 billion (Camp Fire in Butte County).

Forestland. There are 33 million acres of forest in California, including:

- 57 percent (19 million acres) owned and managed by federal agencies (including the US Forest Service, Bureau of Land Management, and National Park Service).
- 3 percent (700,000 acres) owned by state and local agencies, including CalFire, local open space, park and water districts and land trusts.
- 40 percent (13.3 million acres) privately owned, including individuals/families, Native American tribes, and companies.

State's Forests Are in Poor Condition, Increasing Risk of Severe Wildfires. According to the Legislative Analyst's Office (LAO), roughly one-third of California is forested, and these forests provide critical air, water, wildlife, climate, and recreational benefits. However, a combination of factors have resulted in poor conditions across these forests, including excessive vegetation density and an overabundance of small trees and brush. Such conditions have contributed to more prevalent and severe wildfires and unprecedented tree mortality in recent years. Experts are concerned these trends will continue if steps are not taken to significantly improve the health of the state's forests.

Federal Lands: Good Neighbor Authority (GNA) and the Wyden Authority. As noted above, federal agencies (including the US Forest Service, Bureau of Land Management, and National Park Service) own and manage 19 million acres, which is 57 percent of forestland in the state.

The Good Neighbor Authority allows the Forest Service to enter into cooperative agreements or contracts with states to allow the states to perform forest, rangeland, and watershed restoration services on National Forest System (NFS) lands. The objective of GNA is to improve coordination across federal, state, and private boundaries during hazardous fuels, insect and disease, and watershed restoration projects. Project activities that can utilize GNA include:

- Forest restoration: Timber stand improvement, prescribed burning, restoration, timber sales to treat insect or disease infected stands, project support such as sale preparation, biological assessments, heritage surveys, and environmental analysis.
- Hazardous fuels reduction: Forest thinning, piling, removing, or burning slash, and prescribed burning.
- Fish and wildlife habitat improvement: Fish passages, instream fish structures, developing wildlife water sources, constructing turkey piles, and installing duck boxes.
- Watershed restoration: Seeding for soil stabilization and decommissioning existing roads.

In February 2016, the US Forest Service, Region 5 and California Natural Resources Agency (CNRA) signed a GNA Master Agreement. The agreement provides the broad authority for National Forests to engage with CNRA and state entities within CNRA, such as CalFire, the Sierra Nevada Conservancy, and the California Conservation Corps, in Supplemental Project Agreements (SPAs) for a variety of forest, rangeland, and watershed restoration activities. The Master Agreement is valid for 10 years. A SPA specifically identifies the work the state can perform on NFS lands. CalFire currently has three signed SPAs that will facilitate a variety of fuel reduction and forest health activities on the Eldorado, Sierra, and Klamath National Forests. *(For more information on these agreements, please see Attachment A.)*

The Wyden Authority allows the US Forest Service to enter into cooperative agreements that benefit resources within watersheds on National Forest System lands. Agreements may be with willing federal, tribal, state, and local governments, private and nonprofit entities, and landowners. The agreements include conducting activities on public or private lands for the purposes of: (1) the protection, restoration, and enhancement of fish and wildlife habitat and other resources, (2) the reduction of risk for natural disaster where public safety is threatened, or (3) a combination of both.

The GNA allows CalFire crews to work on US Forest Service lands, and the Wyden Authority allows US Forest Service crews to work on adjacent state/private lands. CalFire states that combined, these agreements allow efficient use of resources across jurisdictions to maximize project implementation.

Federal, State, and Local Responsibility Areas. The map below shows the following:

- Federal responsibility areas in green
- State responsibility areas in yellow
- Local responsibility area in gray
- Incorporated cities within a darker gray border



State Responsibility Area (SRA). The SRA consists of 13.2 million acres of forestland – mostly privately owned – for which CalFire is responsible for preventing and suppressing wildfires. SRA does not include lands within city boundaries or under federal ownership.

SRA: SRA Fire Prevention Fee. AB 29 X1 (Blumenfield), Chapter 8, Statutes of 2011 First Extraordinary Session, established the SRA Fire Prevention Fee, which was later suspended as of 2017. The purpose of the fee is to help pay for fire prevention services within the SRA. The fee applies to all

habitable structures within the SRA. Effective July 1, 2013, the fee was levied at the rate of \$152.33 per habitable structure, which is defined as a building that can be occupied for residential use. Owners of habitable structures who are also within the boundaries of a local fire protection agency receive a reduction of \$35 per habitable structure. In addition, a natural disaster exemption allows waiver of the SRA Fire Prevention Fee if a habitable structure is no longer habitable due to a natural disaster. The goal of the fee is, over time, to return fees (in the form of fire prevention activities) across the entire SRA where habitable structures exist.

The fee funded a variety of fire prevention services and programs in the SRA, including fuel reduction activities that lessen risk of wildfire to communities and evacuation routes. Other activities included helping communities create and update their Community Wildlife Protection Plans, defensible space inspections, fire prevention engineering, emergency evacuation planning, fire prevention education, fire hazard severity mapping, implementation of the State and local Fire Plans, and fire-related law enforcement activities such as arson investigation.

From 2011-12 through 2016-17, the fee funded over \$195 million of fire prevention programs and activities throughout the state. Fire prevention activities were prioritized based on the 2010 California Strategic Fire Plan. CalFire has distributed prevention funding to the highest priority projects throughout the state. The fee funded approximately \$90 million annually in various activities noted above. The last fiscal year the SRA fee was collected was in 2016-17.

In 2017, Governor Brown signed AB 398 (E. Garcia, et al.), Chapter 135, Statutes of 2017, which suspended the fee until 2031. Instead, the revenue that would have been derived from the fee is now backfilled by the Greenhouse Gas Reduction Fund (GGRF). The Governor's budget includes \$83.94 million GGRF to backfill suspended SRA fee revenues in 2019-20.

CalFire's Increased Efforts in Fire Prevention. CalFire provides resource management and wildland fire protection services. CalFire operates 234 fire stations and also staffs local fire departments when funded by local governments. CalFire contracts with county agencies in six counties to provide wildland protection services. The Governor's budget proposes \$2.6 billion (\$1.6 billion General Fund) and 7,645.6 positions for CalFire.

The department has significantly increased its efforts in fire prevention in recent years. CalFire's resource management and fire prevention programs include: forest and vegetation treatments, wildland pre-fire engineering, land use planning, education and law enforcement. The purposes of these activities are to reduce the number of fire starts, create more fire resistant and defensible communities, and reduce the overall intensity of wildfire. Typical projects include: forest thinning, vegetation clearance, prescribed fire, defensible space inspections, emergency evacuation planning, fire prevention education, fire hazard severity mapping, and fire-related law enforcement such as fire cause investigation and civil cost recovery for negligently started fires.

Since 2011, CalFire has conducted over one million defensible space inspections. In the last five years, California has treated about 250,000 acres annually of state and private wildlands through forest management activities.

Since 2015, CalFire has approved approximately 500 grants totaling about \$242 million in fire prevention, forest health, and tree mortality grants to stakeholders across the state aimed at restoring health and fire resilience.

The Fire Prevention Program grants emphasize the following:

- Protection of habitable structures
- Number of people benefited
- Wildfire reduction benefits
- Community support

The Forest Health Program grants emphasize projects that:

- Are landscape scale
- Provide multiple benefits (carbon, fire resilience, water, pest resistance, wildlife habitat)
- Provide community benefits – in low income and disadvantaged communities
- Focus on project readiness
- Result in permanence

According to the LAO, in 2017-18, CalFire allocated about half (52 percent) of the Forest Health Program funding for projects on forestlands that are part of the SRA, with nearly all of the balance allocated for projects on federally owned land. Improving the health on neighboring federal forestlands can reduce the threat of wildfire on – and thereby provide benefit to – adjacent SRA lands.

CalFire’s Recent Greenhouse Gas Reduction Fund (GGRF) Funding for Forestry. According to the LAO, the 2017-18 budget included a significant appropriation for activities to improve the health of the state’s forests and reduce the potential for severe wildfires. Specifically, the Legislature appropriated \$195 million in GGRF funds to CalFire for forest health and fire prevention activities. This was a notable increase from earlier GGRF appropriations for similar purposes (\$25 million in 2014-15 and \$40 million in 2016-17). The Legislature identified GGRF as an appropriate funding source for these forest management activities because preventing severe wildfires helps avoid potential emission of greenhouse gases, and because healthy forests sequester more carbon than those in poor conditions. (The 2017-18 budget package provided additional GGRF for other forest-related activities – \$20 million to CalFire for its Urban and Community Forestry Program and \$5 million to the California Conservation Corps to conduct forest health and urban forestry activities.)

2017-18 GGRF: CalFire Allocated Forest Management Funds Across Various Programs and Activities. According to the LAO, the Legislature granted CalFire discretion over how to divide the \$195 million for forest management across its various programs and initiatives. As shown in the figure below, the department decided to allocate \$171 million as local assistance funding through competitive grants across two programs – \$91.5 million for Forest Health and \$79.7 million for Fire Prevention. As of November 2018, CalFire was using most of the remaining \$24 million for state-level activities, including grant administration and technical assistance, data collection, public education, and equipment.

2017-18 GGRF Forest Management Funds
(Dollars in Millions)

Grant Program	Funding	Number of Grants	Average Amount of Grant
Forest Health	\$91.5	22	—
Forest health projects	78.0 ^a	17	\$4.6
Forest Legacy conservation easements	13.6	5	2.7
Fire Prevention	\$79.7	142	—
Fuel reduction	75.2	114	\$0.7
Fire prevention planning	3.3	13	0.3
Fire prevention education	1.3	15	0.1
Totals	\$171.3	164	—

^aCalFire indicates it plans to award an additional \$2.2 million in grants for forest health projects in the coming months. GGRF = Greenhouse Gas Reduction Fund and CalFire = California Department of Forestry and Fire Protection.

Source: LAO

The LAO notes that roughly the same amount of total funding was given out via grants in the two largest funding categories – forest health projects through the Forest Health Program (\$78 million) and fuel reduction projects through the Fire Prevention Program (\$75 million). For forest health, however, the department gave larger amounts of funding to fewer grantees (17 grants with an average size of \$4.6 million), compared to fuel reduction, for which it awarded smaller grants to a larger number of recipients (114 grants with an average size of \$700,000). This reflects the difference in size and complexity of the projects to be undertaken by grantees across these two programs. Specifically, forest health projects typically cover tens of thousands of acres and could include multiple types of forest “treatments” like forest thinning (tree removal), prescribed fire, and/or reforestation (tree planting). Such projects typically have goals of both reducing fire risk and improving the ecological functions of the land (such as carbon storage, quality of habitat, and water supply). In contrast, fuel reduction grants focus on much smaller areas around residential communities and typically are primarily intended to reduce the intensity and spread of wildfire. Such projects include creating defensible space around homes and clearing a strip of trees to serve as a “fuel break” that might slow a fire from spreading.

2018-19 GGRF. According to the LAO, the Legislature followed the 2017-18 funding for forest management activities with \$223 million in 2018-19, including \$160 million specifically for forest health and fire prevention activities.

California Forest Carbon Plan. Governor Brown’s Administration released the *California Forest Carbon Plan* in May 2018. The plan provided forest-related carbon storage and emission estimates, as well as strategies to improve forest management and resilience. This plan laid out the Brown Administration’s aspiration to increase the rate of forest restoration and fuels treatment – including mechanical thinning and prescribed fire – on nonfederal forestlands from the recent average of 17,500 acres per year to 35,000 acres per year by 2020, and to 60,000 acres per year by 2030. The plan also

stated a goal of supporting federal efforts to double the current rate of “health and resiliency treatments” on US Forest Service lands in California from 250,000 acres per year to 500,000 acres per year by 2020.

The plan covers all forested regions of the state and emphasizes the need to take regional and watershed based actions to improve forest health. The plan includes:

- Significantly increasing fuels reduction to prevent high intensity fire.
- Increasing prescribed fire.
- Centering strategies around regions, watershed, and ecosystems.
- Protecting forestland and guarantee lower intensity forestry practices through easements, acquisitions, and land use planning.
- Building new and modern economies around wood products so that small trees and other fuels can be removed in lieu of pile burning.

The 2018 Budget Act included approximately \$320 million related to implementation of the Forest Carbon Plan, including:

- \$160 million for Forest Health grants and \$63 million for fuels reduction in the wildland-urban interface.
- \$30 million for forest treatment in the Sierra Nevada Conservancy.
- \$29 million in permanent funding for six prescribed burning and fuels reduction crews.
- \$22 million to support local agencies and non-profits leading work at the local level.
- \$15 million for protection of forests in State Parks.
- \$2.2 million for wood product market innovation and acceleration.

Major State Expenses Related to Wildfires. Over the last two fiscal years, the state has spent over \$10 billion on wildfire-related expenses, including approximately \$5 billion in 2017-18 and \$5.8 billion in 2018-19, as shown in the following table:

Category	FY 2017-18 (in millions)	FY 2018-19 (in millions)
Wildfire Prevention. CalFire Resource Management Program, Fire Prevention Program, and one-time funding to OES for tree mortality.	\$130	\$330
Fire Response. CalFire initial attack and Emergency Fund fire suppression efforts, conservation camps, and OES funding such as for mutual aid fire engines.	2,300	2,500
Other Response and Recovery. Costs related to response and recovery of the major wildfires in 2017 and 2018.	2,500 (2017 major wildfires)	2,900 (2018 major wildfires)
CalFire Capital Outlay. Funding for CalFire facilities such as fire stations and conservation camps.	50	70
TOTAL	\$4,855	\$5,800

Source: LAO. Note: These amounts do not reflect federal reimbursements.

The state has significantly increased its investment in fire prevention and forest management activities in recent budgets. However, the state spends a fraction on prevention compared to the amount spent on fire response and recovery efforts.

2018 Wildfire Legislative Package. Last year, the Legislature and Governor enacted a package of wildfire and forestry bills, including:

- SB 901 (Dodd), Chapter 626, Statutes of 2018, which addressed numerous issues concerning wildfire prevention, response and recovery, including funding for mutual aid, fuel reduction and forestry policies, wildfire mitigation plans by electric utilities, and cost recovery by electric corporations of wildfire-related damages.
- SB 1260 (Jackson), Chapter 624, Statutes of 2018, which was an omnibus fire prevention and forestry management bill intended to promote long-term forest health and wildfire resiliency. SB 1260 authorized federal, state, and local agencies to engage in collaborative forestry management, created new opportunities for public and private land managers to mitigate wildfire risks, and enhanced CalFire’s role in identifying wildfire hazards as local governments plan for new housing and neighborhoods.
- AB 2126 (Eggman), Chapter 635, Statutes of 2018, which required the California Conservation Corps to establish a forestry corps program.
- AB 2518 (Aguilar-Curry), Chapter 637, Statutes of 2018, which directed CalFire, in collaboration with the Board of Forestry and Fire Protection, to identify barriers to in-state production of mass timber and other innovative forest products. Also, AB 2518 required other entities to develop recommendations for siting of additional wood product manufacturing facilities in the state.
- AB 2911 (Friedman), Chapter 641, Statutes of 2018, which made changes to local planning processes, provided for new building standards based on data from the 2017 fire season, provided for new vegetation management guidance, defensible space authorizations, and re-vegetation requirements in order to improve fire safety, and provided that utilities may be liable for damages removing vegetation not within their easements.

The Governor’s 2019-20 budget includes several proposals to implement provisions in the 2018 wildfire legislative package. *(Please see below, under “GOVERNOR’S PROPOSAL,” for more detail regarding these budget change proposals.)*

CalFire and the Emergency Fund (E-Fund). According to CalFire, the department’s base budget, through its main budget item, pays for initial attack fires, which are fires that can generally be contained and controlled by the next morning. CalFire has a separate funding source, the E-Fund, to pay for extraordinary fire suppression costs when fires cannot be contained and controlled by the next morning. These fires are generally referred to as extended attack and major incidents, which are the fires that are given proper names such as the Thomas and Camp fires. The E-Fund pays for these types of fire suppression costs, which are unbudgeted costs, such as:

- Overtime for CalFire firefighters to work beyond their existing 72-hour shifts (base budget) to fight the fires;
- Overtime costs for the people who fill in and cover the required shift for the person at the incident;
- Hiring local government to help fight the fire;

- California Department of Corrections and Rehabilitation and California Conservation Corps costs for fire crews;
- Costs to create the Incident Base and for its operation; to feed all incident personnel; and,
- Contracted aircraft, dozer, water tender, and other fire suppression vendors.

According to CalFire, the E-Fund also pays for additional fire detection capability to retain minimum initial attack capability during extreme fire conditions, to minimize the greater costs caused by fires escaping initial attack (which is commonly referred to as pre-positioning, where CalFire strategically locates fire suppression assets in advance of predictive weather conditions). It may also be used on a reimbursable basis for assistance-by-hire (for fire emergencies), typically when the federal government agencies, such as the US Forest Service and/or Bureau of Land Management request for CalFire to fight fires on the land that is under their management and financial responsibility.

An initial E-Fund appropriation is included in the annual budget act. CalFire then submits to the Legislature and the Department of Finance (DOF) quarterly actual and projected full year expenditure information for review and approval. DOF may augment the budget for the projected full year expenditure amount, once the Legislature has approved the quarterly letter, no sooner than 30 days after it is submitted, unless an earlier approval is requested.

Wildfires: Conclusion. As stated by researchers and scientists, it is not a question of *if* the fires come again – but rather *when* the fires come again. California spends a significant amount of money for immediate, emergency responses to, and consequences of, wildfires. By investing more in forest management and improving land use planning, the state has an opportunity to proactively reduce the costs of wildfire suppression and recovery.

BACKGROUND: EMERGENCY/DISASTER ASSISTANCE

The state is home to over 800 miles of coastline, dozens of fault lines, and thousands of square miles of forest, and 39 million residents. Unfortunately, the extensive coastline, fault lines, and forestry in the state combined with the large population base create a recipe for costly man-made and natural disasters. Potential disasters include hazardous material spills, civil unrest, flood, fire, earthquake, energy disruption, cyber-attack, severe weather, food and/or agricultural emergency, pandemic/epidemic, and dam or levee failure.

The role of Cal OES is to address risks and threats, maintain a state of readiness, and plan for and mitigate impacts. The office coordinates the state agency response to major disasters in support of local governments, and homeland security activities throughout the state. Cal OES provides leadership, assistance, training, and support to state and local agencies; and coordinates with federal agencies in planning and preparing for the most effective use of resources in emergencies.

California Disaster Assistance Act (CDAA). The CDAA was established to provide financial and other assistance to local governments for the repair and restoration of public property in the event of natural disasters, acts of terrorism, or health epidemics. When a local government is overwhelmed by an emergency it can apply to the state for funds from the CDAA program. Funds are disbursed when the Director concurs with a local emergency proclamation requesting state disaster assistance or in response to a state of emergency proclaimed by the Governor. Cal OES serves as the grantor of the CDAA program. The application process for the CDAA program requires that a local agency submit an application to OES within 60 days of the date of the local proclamation. Additionally, the applicant must have incurred a minimum aggregate total damage of \$3,340 in order for costs to be eligible under CDAA. The process for requesting CDAA funds is listed below:

- Initial damage estimate conducted by local authorities.
- State assessment of initial damage estimate.
- Governor's Proclamation or notice of concurrence issued by the Director of OES.
- Application submission and a briefing provided by applicant.
- Kickoff meeting, project formulation, and cost estimates are conducted.
- Project review and validation.
- Obligation of funds.
- Project completion.
- Final claim process and closeout.

California Disaster Assistance Funding. The amount funded each year varies, depending on how much local agencies are seeking and the occurrence of recent natural disasters. CDAA funding is typically done on a reimbursement basis so costs are often lagged. Bear in mind that this is not the total amount that the state is contributing to disaster assistance. (Some disaster assistance costs are captured in other departmental budgets and through various other means). Local agencies are typically responsible for 25 percent of project costs. The state share for eligible projects may not exceed 75 percent, unless specified in statute. CDAA is not the only source of Cal OES funding made available in times of emergency and recovery. The office also manages the state private nonprofit organizations assistance program which provides assistance to qualified nonprofits that incur extraordinary costs while assisting at the request of local agencies.

Other Agencies also provide assistance. Cal OES is not the only state agency to provide assistance to local governmental entities during a disaster. For example, the Department of Education can provide schools relief from the loss of state average daily attendance funding during a disaster.

State Programs for Disaster Assistance During Disasters

Support Type	Resource/Program	Provider Agency/ Department	Intended Recipients
Individuals	Disaster Unemployment Assistance	Employment Development Department	Business owners or self-employed individuals ineligible for state unemployment benefits and those whose unemployment benefits have run out, but are still unemployed due to the disaster.
Individuals	Tax Relief; Calamity Property Tax Reassessment	Affected county tax assessor	Homeowners of property that has been destroyed or damaged as a result of a Governor-declared disaster.
Individuals, Households	State Supplemental Grant Program	Department of Social Services	Eligible individuals and households who are unable to meet disaster-related necessary expenses and serious needs.
Individuals, Local Governments	Debris Removal	Department of Resources Recycling and Recovery and Department of Toxic Substances Control	Homeowners with destroyed structures/home over 120 square feet on their property.
Individuals, Businesses, Non-Profits, Tribal Governments	Legal Services for Disaster Relief	The California State Bar Association	Disaster survivors
Individuals, Businesses	Emergency Tax Relief for Business Owners	Department of Tax and Fee Administration	Business Owners
Businesses, Non-Profits	Disaster Assistance for Employers	Employment Development Department	California businesses

Federal Disaster Assistance. When the state is overwhelmed by an emergency, it can apply to the Federal Emergency Management Agency (FEMA) for disaster assistance. The Governor must submit a request for a declaration disaster to the President within 30 days of the event in order to receive federal funding. The process for requesting FEMA disaster relief funds is listed below:

- Preliminary damage assessment (conducted in coordination with FEMA)¹.
- Governor submits declaration request within 30 days of incident.
- Declaration of disaster by the President.
- Cal OES holds applicant briefings with local entities.
- Applicants submit requests for public assistance to Cal OES within 30 days of declaration.
- Kickoff meetings with applicants, Cal OES, and FEMA are held within 21 days of request approval.
- Project scope of work and costs are determined.
- Obligation of funds to Cal OES from the federal Disaster Relief Fund².
- Funding is disbursed through Cal OES to applicants.
- Applicants provide quarterly status updates.
- Work is completed, recipient certifies completion, and closeout process with FEMA and Cal OES begins.

There are three types of federal disaster declarations. Emergency declarations can be declared in any circumstance in which the President determines federal assistance is needed. These declarations supplement state and local government efforts in providing emergency services, or to lessen the threat of a catastrophe. The amount provided in response to an emergency declaration may not exceed \$5 million unless Congress gives authorization to exceed that amount. Only assistance for debris removal, emergency protective measures, and individual and household assistance (such as for housing, clothing, etc.) are available for emergency declarations. Public assistance is commonly provided on a 75 percent federal, 25 percent non-federal cost sharing basis. The state and locals typically split that 25 percent share, with the state paying approximately 19 percent of the total costs, and locals paying the remaining six percent. Housing assistance for individuals is provided at a 100 percent federal share and all other individual assistance programs require a 25 percent non-federal cost share.

¹ Generally, the preliminary damage assessment is completed prior to the submission of the Governor's request for a major disaster declaration. However, when an obviously severe or catastrophic event occurs, the Governor's request may be submitted prior to completion of the assessment.

² FEMA may lend a state the portion of assistance for which it is responsible for under specific circumstances outlined in Title 44 of the Code of Federal Regulations.

The second type of federal declaration is a Major Disaster declaration. These can be declared in the occurrence of any natural event, and can provide assistance for both individuals and public infrastructure. The particular types of assistance available are specific to the individual event, and are determined by the information in the Governor's request, and needs identified during the preliminary damage assessment. The federal share of costs depends on the type of assistance provided. However, funding for major disasters is commonly provided on a 75 percent federal, 25 percent non-federal cost sharing basis. Note that, in general, more types of assistance are available for major disasters than in emergencies. Infrastructure repair and replacement, crisis counseling, and unemployment assistance are just a few examples of the types of assistance available in major disasters but not necessarily in emergencies.

The third type of declaration is the Fire Management Assistance Declaration. The process for requesting a fire management assistance declaration significantly differs from the process for the other two types of declarations. The process is expedited and initiates upon the submission of a request for assistance from the state to the FEMA regional director. FEMA renders a decision within hours. The federal government provides a 75 percent cost share and the state pays the remaining 25 percent. While the other two declarations mentioned are focused on recovery after disasters, the Fire Management Assistance Declaration focuses more on first response and protective measures, so larger fires do not graduate to become major disasters. The state spends a significant amount of funds on fire response each year, mostly from the Department of Forestry and Fire Protection. This type of declaration, while not directly relevant to the topic of this piece, is worth mentioning since the state spends a substantial amount of funding on fire response each year.

FEMA is not the only source of federal aid in times of disaster, as other federal agencies can provide assistance. For example, the Small Business Administration is able to provide loans to businesses that suffer damage in certain events. A small sample of federal disaster aid programs managed by agencies other than FEMA is described in the next table.

Federal Programs for Disaster Assistance

Support Type	Resource/Program	Provider Agency/ Department	Intended Recipients
Individuals	Forbearance and Loan Modifications Programs and Immediate Foreclosure Relief	U.S. Department of Housing and Urban Development	Federal Housing Administration Loan Borrowers.
Individuals	Disaster Assistance for Students	U.S. Department of Education	Financial aid recipients and students seeking financial aid assistance.
Individuals	Public Safety Officers' Benefit Program	U.S. Department of Justice	Law enforcement officers, firefighters, other first responders.
Individuals	Disaster Unemployment Assistance	U.S. Department of Labor	Individuals whose employment or self-employment has been lost or interrupted as a direct result of a major disaster and who are not eligible for regular unemployment insurance benefits.
Individuals, Households	Multi-Family Housing Program	U.S. Department of Agriculture Rural Development	Individuals and families whose property was destroyed by a declared disaster.
Individuals, Businesses, Local Governments	RestoreYourEconomy.org	U.S. Economic Development Administration	Economic development and chamber of commerce professionals, and community leaders, working on economic recovery efforts for disaster-impacted communities.
Local Governments, States, Territories	Federal Highway Administration Public Transportation Emergency Relief Program	U.S. Department of Transportation, Federal Highway Administration	Public transportation systems to prepare or respond to a disaster event.

Federal Disaster Relief Fund (DRF). The DRF is the account used to fund disaster assistance programs to state, local, and tribal governments, as well as certain nonprofit entities. The fund acts as a reserve for future incidents as well as an account to pay for ongoing projects to recover from previous disasters. Congress funds the DRF through regular annual appropriations; however, unused funds at the end of a fiscal year carry over to the next year. Each year Congress routinely provides two appropriations to the DRF. The first, known as base funding, is for FEMA operations and routine events. The second is for major declarations; the amount is calculated based on how much was spent on disaster relief in the past decade. When recovery efforts surpass FEMA funding, Congress can authorize more.

Determination of Assistance. While there are a number of factors taken into consideration, cost plays a major factor in determining if assistance is needed. FEMA utilizes a per-capita cost threshold as one of the determining factors in providing assistance. The estimated cost of public assistance is evaluated against the statewide population to give a measure of the per capita impact within the state. For California, the damage estimate would need to exceed \$57 million before assistance can be requested.

In the event that local first responders are not adequately resourced to address an emergency they can seek assistance from the state. The state is then able to provide state resources. Meanwhile, a preliminary damage assessment is conducted by state, local, federal, and volunteer agencies. Upon completion of the preliminary damage assessment, the Governor may issue a state disaster declaration. The declaration commits funds and resources to the long-term recovery effort. After a declaration has been made, CDAA funds may be made available to eligible applicants. If the disaster exceeds the state's capacity the Governor may seek federal assistance. FEMA then assesses the request and provides a recommendation to the President as to whether or not federal support shall be provided.

California's 911 System. The Warren 911 Emergency Assistance Act of 1976 established the state's existing 911 system. California has an outdated 911 system that uses old technology and is prone to outages during major disasters. There have been previous efforts to update the analog microwave network to a digital network to re-route calls to other parts of the state when a dispatch center is damaged, evacuated or overwhelmed. However, these efforts have been unsuccessful.

The system includes approximately 458 public safety answering points (PSAPs) that receive over 28 million voice calls per year. In 2017, there were 28.13 million 911 calls as follows:

- 80 percent Wireless
- 15 percent Wireline
- 4 percent Voice over Internet Protocol (IP)
- 1 percent Other
- Approximately 18,200 Text

These calls are dispatched to local first responders including, police, ambulance, fire, medical, and other emergency service providers.

The Public Safety Communications Office within Cal OES administers the state 911 system, reviews local PSAPs 911 equipment and operations, and reimburses their reasonable costs for planning, implementation, and maintenance of approved 911 systems.

911: State Emergency Telephone Number Account (SETNA). The 911 program costs are funded from SETNA, which has been in a structural deficit for years because of the decline in annual surcharge revenue. Revenue is derived from a statewide 911 surcharge on telephone customer bills, including landline, wireless, and Voice over Internet Protocol services. Cal OES is required to determine the surcharge rate annually up to a statutory maximum of 0.7 percent of intrastate service charges. The current fee structure that supports the 911 system has been in place since 1973 and is reliant on outdated modes of communication. When the fee structure was established, Californians only had landlines. Neither cell phones nor communication through text/data existed.

Smartphones today are the prevalent device accessing the 911 system nowadays. Approximately 80 percent of all calls to 911 are from smartphones. Because smartphone consumers are texting and using data more than making voice calls, there has been a steady downward trend in revenues collected and deposited into the SETNA fund since the current fee is only assessed on intrastate voice calls.

911: Next Generation 911 (NG911). NG911 refers to an IP-based, two-way communications system that will enable real-time transmission of emergency-related voice, text, data, photos, and video between the public and public safety agencies. NG911 will require substantial funding for PSAP upgrades to an IP-based platform. There have been steps taken towards implementation of this new system. In December 2010, the Proposed California NG911 Roadmap was released, which identified steps and tasks necessary to assess, plan, design, test, implement, and maintain a comprehensive NG911 system in the state. Also, five pilot projects are taking place in various regions in the state, which are designed to allow the state to implement, monitor, and evaluate various NG911 platforms in order to validate each solution against requirements identified as necessary for NG911 in California.

GOVERNOR'S PROPOSAL

For 2019-20, the Governor's budget includes a total of \$555 million for a number of proposals in several departments related to disaster response and recovery (about one-third of this is one-time funding). The table below provides a general overview of the Governor's budget proposals related to disasters.

Summary of Governor's Wildfire- and Disaster- Related Proposals for 2019-20

(In Millions)

Proposals	Amount
Property Tax Backfill	\$31
Other Wildfire Prevention and Response	
Wildfire legislative package ^a	235
Other wildfire-related proposals	124
Subtotal	(\$359)
Other Disaster-Related	
Public safety radio system	\$78
9-1-1 modernization	51
California Disaster Assistance Act	20
Earthquake Early Warning System	16
Subtotal	(\$165)
Total	\$555

^aLegislative package consists of Chapter 624 of 2018 (SB 1260, Jackson), Chapter 626 of 2018 (SB 901, Dodd), Chapter 635 of 2018 (AB 2126, Eggman), Chapter 637 of 2018 (AB 2518, Aguiar-Curry), and Chapter 641 (AB 2911, Friedman).

Note: Includes all fund sources. Excludes funding proposed for 2018-19.

Source: LAO

According to the LAO, the budget assumes a net increase of \$923 million will be needed from the General Fund for response and recovery activities associated with the Camp, Woolsey, and Hills fires that occurred in November 2018. This assumes that the federal government will reimburse the state for 75 percent of the state's eligible costs associated with these fires (although the Governor's administration has requested the federal government reimburse the state for 100 percent of certain eligible costs, the administration has yet to receive a response). The Governor also proposes the state General Fund pay for the local share of debris removal costs associated with the fires, currently estimated at \$155 million. In addition, the Administration indicates that it intends to request a total of \$60 million from the General Fund in the coming months for a public education campaign (\$50 million) and for the modernization of the 911 system (\$10 million).

Wildfire-Related Budget Proposals. As noted above, a package of wildfire-related legislation was chaptered in 2018. The table located on the next page provides a list of the budget proposals for implementation of these bills.

2019-20 Governor's Budget: 2018 Wildfire Prevention and Recovery Legislative Package					
<i>(In Millions)</i>					
Dept.	Proposal	General Fund	Other Funds	Total	Positions
CalFire	SB 901 (Dodd): Improving forest management and decreasing fire risk.	-	\$4.832 <i>GGRF</i>	\$4.832	10
CalFire	SB 901: Prescribed fire crews, research and monitoring.	-	\$35 <i>GGRF</i>	\$35.0	157
CalFire	SB 901: Forest health and fire prevention projects and programs.	-	\$165 <i>GGRF</i>	\$165.0	19
Dept. of Fish & Wildlife	SB 901: Timber Harvest Plan exemption review.	\$1.483	\$2 <i>Timber Regulation and Forest Restoration Fund</i>	\$3.483	15
State Water Resources Control Board	SB 901: Review of Timber Harvest Plan exemptions and utility corridor vegetation management permitting.	\$2.547	\$1.831 <i>Waste Discharge Permit Fund</i>	\$4.378	22
Public Utilities Commission (PUC)	SB 901: Support for PUC workload associated with wildfires cost recovery proceedings, wildfire mitigation plans, and oversight.	-	\$6.632 <i>PUC Reimbursement Account</i>	\$6.632	34
PUC – Public Advocate's Office	SB 901: Support for Public Advocate's Office to address utility safety-related, financial-related, and legal workload.	-	\$2.529	\$2.529	14
CalFire	SB 1260 (Jackson): Prescribed fire program, burn boss certification, and increasing pace and scale.	-	\$2.517 <i>GGRF</i>	\$2.517	8
Air Resources Board	SB 1260: Prescribed fire monitoring program.	-	\$3.438 <i>GGRF</i>	\$3.438	5
California Conservation Corps	AB 2126 (Eggman): Support for four Forestry Corps crews that will undertake forest health and hazardous fuel reduction projects.	\$4.454	-	\$4.454	2
CalFire	AB 2518 (Aguiar-Curry): Barriers to and solutions for expanding the use of mass timber and other wood products.	-	\$0.4 <i>GGRF</i>	\$0.4	-
CalFire	AB 2911 (Friedman): Increasing fire and life safety – implement local government survey, coordination with local governments, and conduct field reviews and develop recommendations for improving fire and life safety of non-conforming residential subdivisions.	-	\$2.278 <i>GGRF</i>	\$2.278	6
Total		\$8.484	\$226.457	\$234.941	292

In addition, the budget includes other wildfire-related proposals, such as:

- **Increasing Aviation Resources.** The budget includes \$11.4 million General Fund for the first year of operating C-130 air tankers (\$120 million total General Fund).
- **Expansion of Firefighting Surge Capacity.** The budget includes \$64.4 million General Fund for 13 new year-round fire engines, expanding heavy fire equipment operator staffing, and accelerating the replacement of fire engines and other mobile equipment. Also, the budget includes \$3.1 million General Fund to operate five additional California Conservation Corps fire crews at Los Padres, Camarillo, and Butte Fire Centers.

CalFire requests 199 additional full-time firefighters. The department currently employs 1,927 full-time and 1,466.6 seasonal firefighters.

- **Support for Emergency Responders.** The budget includes \$6.6 million from various funds to expand the health and wellness program to provide medical and psychological services to firefighters.
- **Improving the Use of Technology.** The budget includes \$9.7 million General Fund for 100 additional fire detection cameras, staff to review data gathered through remote sensing technology.

Other Disaster-Related Proposals. The budget includes the following disaster-related proposals that are not specifically focused on wildfires, but that would allow Cal OES to improve the state's emergency response and preparedness capabilities.

- **State Emergency Telephone Number Account (SETNA).** The budget includes a one-time investment of \$60 million General Fund – \$10 million in 2018-19 and \$50 million in 2019-20 – to continue improvements to the state's 911 system.
- **California Earthquake Early Warning System.** The budget includes a one-time augmentation of \$16.3 million General Fund to finish the build-out of the California Earthquake Early Warning System.
- **Public Education.** The budget includes \$50 million General Fund one-time to begin a comprehensive statewide education campaign on disaster preparedness and safety.
- **Mutual Aid.** The budget includes \$25 million General Fund ongoing for repositioning of existing Cal OES and local government resources that are part of the statewide mutual aid system.
- **California Disaster Assistance Act (CDAA).** The budget includes \$20 million General Fund one-time to increase the amount of funding available through CDAA, which is used to repair, restore, or replace public real property damaged or destroyed by a disaster, and to reimburse local government costs associated with emergency activities. This augmentation increases total CDAA funding to \$82.6 million in 2019-20.

- **Public Safety Radios.** The budget includes \$59.5 million General Fund over five years (\$10.8 million for the budget year) to develop and implement the California Interoperable Public Safety Radio System.

Backfill of Property Taxes for Local Governments Affected by Recent Wildfires. The Governor's budget proposes \$31 million General Fund in 2019-20, to be expended over a few years, to backfill wildfire-related property tax losses for cities, counties, and special districts associated with certain major wildfires that have occurred since 2015. Funding includes:

- \$11.5 million to backfill entities in the counties of Butte, Lake, Los Angeles, Orange, Riverside, Shasta, and Siskiyou for losses estimated to be incurred in 2019-20 as a result of the 2018 fires.
- \$16.1 million to backfill entities in Butte County for losses estimated to be incurred in 2020-21 and 2021-22 due to the Camp Fire.
- \$3.6 million to backfill entities in Lake County for losses estimated to be incurred in 2019-20, 2020-21, and 2021-22 resulting from wildfires in 2015, 2016, and 2017.

The Governor's budget includes an additional backfill amount for Butte and Lake counties, given that the magnitude of the fire damage in these counties will require additional time to reconstruct the impacted properties and restore them to the property tax rolls.

Additionally, to the extent that schools and community colleges experience losses in local property tax revenues as a result of these fires, the state would automatically provide a corresponding backfill from Proposition 98 General Fund. The Governor's budget estimates K-14 schools will incur \$19 million in 2019-20 property tax revenue losses due to the November 2018 wildfires.

ATTACHMENT A

Good Neighbor Authority

Summary provided by CalFire

CAL FIRE Good Neighbor Authority Summary

A Master Good Neighbor Authority (GNA) Agreement under the Farm Bill was signed in February 2016 between the US Forest Service (FS), Region 5 and the California Natural Resources Agency (CNRA). This GNA Master Agreement provides the broad authority for National Forests (NFs) to engage with CNRA and its offices (including CAL FIRE, California Department of Fish and Wildlife, California Department of Conservation, Sierra Nevada Conservancy and Department of Parks and Recreation) in Supplemental Project Agreements (SPAs) for a variety of forest, rangeland, and watershed restoration activities. The GNA Master Agreement is valid for 10 years. CAL FIRE currently has three signed SPA that will facilitate a variety of fuel reduction and forest health activities on the Eldorado, Sierra and Klamath National Forests.

CAL FIRE - Eldorado National Forest Supplemental Project Agreement

The SPA between the Eldorado NF and CAL FIRE was fully executed in July 2016. This SPA represents the first SPA for the Forest Service in California and as such, a few clarifications were needed between the agencies which paved the way for future agreements. This SPA contains the Fire Adapted 50 landscape restoration project with the overarching objective to implement a landscape-level pilot project that will demonstrate cross jurisdictional cooperation for fuel modification in a high fire hazard area of the State within existing statutory and regulatory frameworks. The purpose of this agreement is to complete forest health restoration work, including a 1500-acre shaded fuel break designed to protect the communities of Camino and Pollock Pines and National Forest system lands adjacent to these communities. The project will be implemented on both Federal and nonfederal lands over a five-year period. The agreement includes the joint completion of NEPA and CEQA to address environmental impacts as required by state and federal law. The FS is supporting the project with \$908,000 in federal funds and CAL FIRE is administering project activities through a combination of non-cash resource contribution and California Climate Investment funds.

CAL FIRE - Sierra National Forest Supplemental Project Agreement

The SPA between the Sierra NF and CAL FIRE was fully executed in November 2016. Unlike the above Eldorado SPA, this agreement involves both FS and CAL FIRE crews working in tandem across jurisdictional boundaries through use of both the GNA and the Wyden Authority.

The Wyden Authority allows the FS to enter cooperative agreements that benefit resources within watersheds on National Forest System lands. Agreements may be with willing Federal, Tribal, State, and local governments, private and nonprofit entities, and landowners to conduct activities on public (state) or private lands for the purposes of 1) the protection, restoration, and enhancement of fish and wildlife habitat and

other resources, 2) the reduction of risk for natural disaster where public safety is threatened, or 3) a combination of both. Used together, the GNA allows CAL FIRE crews to work on FS lands, and the Wyden Agreement allows FS crews to work on adjacent State/private lands. Combined these agreements truly allow efficient use of resources across jurisdictions to maximize project implementation.

The Sierra NF SPA/Wyden Agreement was developed in response to the catastrophic tree mortality event ultimately requiring FS and CAL FIRE to work together to leverage their relative skills and capacities to fall trees for public safety. No funds will be transferred as FS will pay for FS crews and CAL FIRE will pay for CAL FIRE crews. Funds may be amended into the SPA in the future as available and desired. The project will collaboratively treat insect and disease tree mortality affected areas on the High Sierra Ranger District on the Sierra National Forest and surrounding state and private lands over a five-year period to reduce fire risk, maintain public safety, and improve forest health. The first year has focused on the Acorn project area (400 acres) and subsequent years' project areas and activities will be defined on an annual basis and added to the agreement through amendment.

CAL FIRE - Klamath National Forest Supplemental Project Agreement

The goal of this SPA is to improve fire resiliency on and around National Forest System lands near the city of Yreka, CA by reducing fuels and stand density in strategic areas and within the wildland urban interface (WUI), to improve forest health, to improve habitat for various wildlife and botanical species, and to improve watershed conditions in the project area.

Project activities will focus on creating fuel breaks, mastication, thinning with forest product removal (commercial harvest), thinning without forest product removal, road reconstruction, road maintenance, and legacy site repair on over 1000 acres of FS lands. Initial project activities will involve commercial timber harvest. This is the first SPA between CAL FIRE and the FS that has a commercial harvest component and project revenue funds may be directed back toward the FS to support additional work.

The purpose and need of this project is to:

- Improve defensibility and resiliency to wildfires;
- Improve forest health (reduce stand density and improve insect and disease resiliency);
- Improve early seral habitat for deer and other species that prefer early-successional habitat;
- Improve fire resiliency in habitat for late-successional dependent species (e.g., northern spotted owl, northern goshawk, North American wolverine, and fisher);
- Enhance habitat for the sensitive plant species *Calochortus persistens* (Siskiyou mariposa lily); and;
- Improve watershed concerns caused by sediment sources to streams

The agreement covers the entire suite of activities that meet the goals and objectives identified in the Klamath National Forest Plan and the Craggy Vegetation Management Project Environmental Impact Statement (EIS) and that are authorized under the Good Neighbor Authority. CAL FIRE and the U.S. Forest Service will identify project areas and treatment activities on an annual basis with an overall objective of accelerating the pace and

scale of fuels reduction activities on and off U.S. Forest Service lands. Through this acceleration of fuels reduction activities, the U.S. Forest Service will move closer to meeting its goals of reducing wildfire risk to the communities, specifically Yreka and Hawkinsville, California.

CAL FIRE has one additional SPA being developed through cooperative efforts to support forest health activities on the Stanislaus National Forest and surrounding private lands. This SPA is part of the National Disaster Resilience Competition funds being administered by CA Housing and Community Development. The SPA will likely be signed in the spring of 2019.