

# How Insurance Companies Are Assessing Risk



Presented by

**Kyler Crawford, AFIS**



George Petersen Insurance Agency

# Costliest Wildfire Losses In United States History

## Top 10 Costliest Wildland Fires In The United States (billions- as of 2020)

Rank	Year	Name	Estimated insured loss	
			Dollars when occurred	In 2020 dollars (2)
1	2018	Camp Fire	\$10,000	\$10,380
2	2017	Tubbs Fire	8,700	9,230
3	2018	Woolsey Fire	4,200	4,360
4	1991	Oakland Fire (Tunnel)	1,700	3,240
5	2017	Atlas Fire	3,000	3,180
6	2020	Glass Fire	2,900	2,900
7	2020	CZU Lightning Complex Fire	2,430	2,430
8	2017	Thomas Fire	2,250	2,390
9	2007	Witch Fire	1,600	2,000
10	2020	LNU Lightning Complex Fire	1,980	1,980



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Source



# Wildfire Loss Statistics

## Top 10 States At High To Extreme Wildfire Risk, 2019

Rank	State	Estimated number of properties at risk
1	California	2,019,800
2	Texas	717,800
3	Colorado	371,100
4	Arizona	237,900

## Top 10 States For Wildfires Ranked By Number Of Fires And By Number Of Acres Burned, 2020

Rank	State	Number of fires	Rank	State	Number of acres burned
1	California	10,431	1	California	4,092,151
2	Texas	6,713	2	Oregon	1,141,613
3	Arizona	2,524	3	Arizona	978,568
4	Montana	2,433	4	Washington	842,370
5	Florida	2,381	5	Colorado	625,357
6	North Carolina	2,364	6	Montana	369,633
7	Oregon	2,215	7	Wyoming	339,783
8	New Jersey	1,981	8	Utah	329,735
9	Georgia	1,699	9	Idaho	314,352
10	Washington	1,646	10	Nevada	259,275



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# Wildfire Loss Statistics Cont....

## Top 10 Largest California Wildfires- Including year 2021

FIRE NAME (CAUSE)	DATE	COUNTY	ACRES	STRUCTURES	DEATHS
1 AUGUST COMPLEX (Lightning)	August 2020	Mendocino, Humboldt, Trinity, Tehama, Glenn, Lake, & Colusa	1,032,648	935	1
2 DIXIE (Under Investigation) *	July 2021	Butte, Plumas, Lassen, & Tehama	963,276	1,329	1
3 MENDOCINO COMPLEX (Human Related)	July 2018	Colusa, Lake, Mendocino & Glenn	459,123	280	1
4 SCU LIGHTNING COMPLEX (Lightning)	August 2020	Stanislaus, Santa Clara, Alameda, Contra Costa, & San Joaquin	396,624	222	0
5 CREEK (Undetermined)	September 2020	Fresno & Madera	379,895	853	0
6 LNU LIGHTNING COMPLEX (Lightning/Arson)	August 2020	Napa, Solano, Sonoma, Yolo, Lake, & Colusa	363,220	1,491	6
7 NORTH COMPLEX (Lightning)	August 2020	Butte, Plumas & Yuba	318,935	2,352	15
8 THOMAS (Powerlines)	December 2017	Ventura & Santa Barbara	281,893	1,063	2
9 CEDAR (Human Related)	October 2003	San Diego	273,246	2,820	15
10 RUSH (Lightning)	August 2012	Lassen	271,911 CA / 43,666 NV	0	0

- 8 of the top 10 are all within the last 4 years
- Fires 1-5 equal a total acres burned of 3,231,566 (1 fire from 2018, 3 from 2020, 1 from 2021)
- Fires 6-10 equal a total acres burned of 3,660,652



# Wildfire Loss Statistics Cont....

## Top 10 Most Destructive California Wildfires

Rank	Fire name and cause	Date	County	Acres
1	Camp Fire (Power lines)	November 2018	Butte	153,336
2	Tubbs (Electrical)	October 2017	Napa and Sonoma	36,807
3	Tunnel - Oakland Hills (Rekindle)	October 1991	Alameda	1,600
4	Cedar (Human related)	October 2003	San Diego	273,246
5	North Complex (Under investigation) (2)	August 2020	Butte, Plumas and Yuba	318,935
6	Valley (Electrical)	September 2015	Lake, Napa and Sonoma	76,067
7	Witch (Power lines)	October 2007	San Diego	197,990
8	Woolsey (Under investigation)	November 2018	Ventura	96,949
9	Carr (Human related)	July 2018	Shasta County and Trinity	229,651
10	Glass Fire (Under investigation) (2)	September 2020	Napa and Sonoma	67,484



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Source



# CoreLogic- Wildfire Score



## All advantages to the CoreLogic Wildfire Risk Product

- Accounts for ember travel (always has)
- The Score now accounts for climate change in the form of wind and drought as they relate to wildfire (2021)
- RM report provides information related to fire history and the location of past burns compared to geocode
- Used in CA and other western states and accepted for rating/pricing
- Geocode accuracy at the structure level – important for properties with lots larger than 2 acres
- Full time wildfire risk science and analytics team to support wildfire risk data
- Additional wildfire related data on the horizon (proprietary info)





# CoreLogic- Wildfire Score



## 1.1 - Wind



- Stronger winds carry larger embers and carry embers farther
- Longer duration winds create more total embers
- Hinders ability to use aircraft for suppression
- Longer fire season now causes Fall winds to coincide with the driest fuels
- Tubbs Fire 2017 recorded 92 mph gust – sustained high speed winds: 8+ hours
- Kincaide Fire 2019 recorded 102 mph gust – sustained high speed winds: 30+ hours



# CoreLogic- Wildfire Score



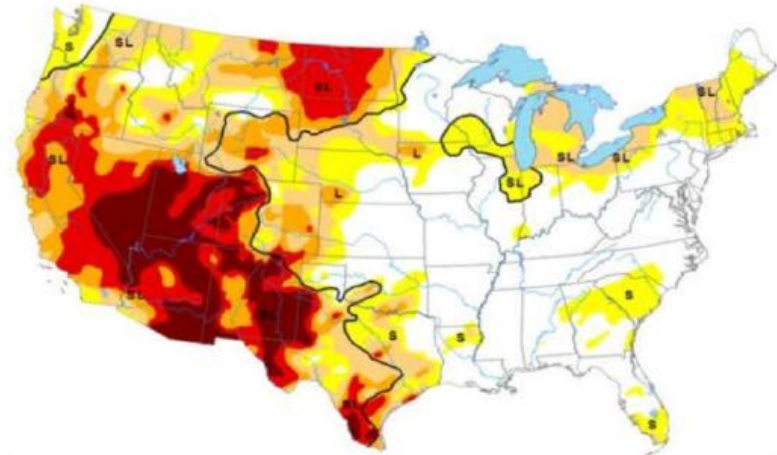
## 1.2 - Drought

- Stresses and kills vegetation – turns vegetation into prime fuel
- Persistent drought dries vegetation more completely making it more volatile fuel
- Longer and more severe drought kills larger vegetation which results in more dense fuel load
- The past 5 years of drought conditions influence the fire risk today

Map released: April 22, 2021

Data valid: April 20, 2021

Week of 4/28: 46.5% of lower 48 in drought



Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought



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# CoreLogic- Wildfire Score



## Is climate change responsible?

- You cannot look at one event or even one year and say it is the result of climate change.
  - Climate change is like an education – you don't go to one algebra class or one semester of algebra and then say you are a mathematician. It requires a longer period to validate.
- Patterns over the last 10-20 vs 5-10 vs 1-5 years point towards more intense and larger fires.
  - More intense means they are less likely to be contained as quickly by responders as past fires.
  - More likely to become larger and therefore affect more urban/developed areas.
- Climate change is progressive – it continues to increase but not all at once or every year.
- 2015 US had over 10 million acres burned for first time in modern history.
  - Then it happened again in 2017 and again in 2020.
  - Doesn't mean there can't be "down" years - 2019 only 4.6 mill acres.



# CoreLogic- Wildfire Score



## 2 - Climate Change revising the score – wind and drought

### New for 2021

- The model had not changed since its inception in 2003 other than normal layer updates.
- Wind and drought have been affecting wildfire forever. So why include them now?
  - They are having a greater impact and are more influential now than anytime in recent history
  - Longer fire season – 2 to 5 months longer in the west than 20 to 30 years ago
  - Overlap of fire season with Fall winds (Santa Ana/Diablo no longer coincide directly with Fall precipitation)
  - Warmer surface temperatures result in more drying of fuels
  - Two decades of increasingly severe drought (possible onset of “megadrought”)
  - Drought stresses and kills vegetation, creating more fuels / drier fuels, both of which contribute to fire threat
  - Fires in the past 5 years have shown evidence of intensity that can only be attributed to changing climatic conditions



# CoreLogic- Wildfire Score



## Drought and Wind Factors

- Based on the most recent 5 years of data
- Designed to identify recent and current trends in drought or wind
  - Not current conditions that vary by day or week
  - Not long-term conditions from 20 to 30 years ago that may no longer be relevant
- Will not affect inner-urban areas located distant from any high-risk fuels
  - Central urban areas are not close to fuels, so scores will not change
- Will not affect locations where drought and wind are not elevated
  - Not all locations in the west are affected by wind and drought and scores in these areas will not change
- Wind and drought will enable us to indicate where these new types fires are more likely to occur.
  - The 7 largest fires in CA history have occurred since 2017
  - 13 of top 20 most destructive fires in CA have happened since 2017
  - 20 largest fires in CO all since 2002; top 3 all in 2020; 10 of top 20 all since 2017



# CoreLogic- Wildfire Score



## Banning/Cherry Valley/Beaumont, California

### Riverside county

- High risk surrounding urban development – strong wind funnels out of the mountains and through the valley
- Currently elevated drought conditions
- Embers likely to travel farther than they would in areas that experience less wind or less severe drought
- Homes that would normally score 40-50 may increase to Moderate or High based on drought/wind
- Historic fires in this area (fires over 1,000 acres in the last 25 years):
  - Apple (2020): 55,000 ac
  - Silver (2013): 20,000 ac
  - Summit (2013): 3,000 ac
  - Esperanza (2006): 40,000 ac
  - Ranch (2006): 2,000 ac
  - Edna (1998): 27,000 ac

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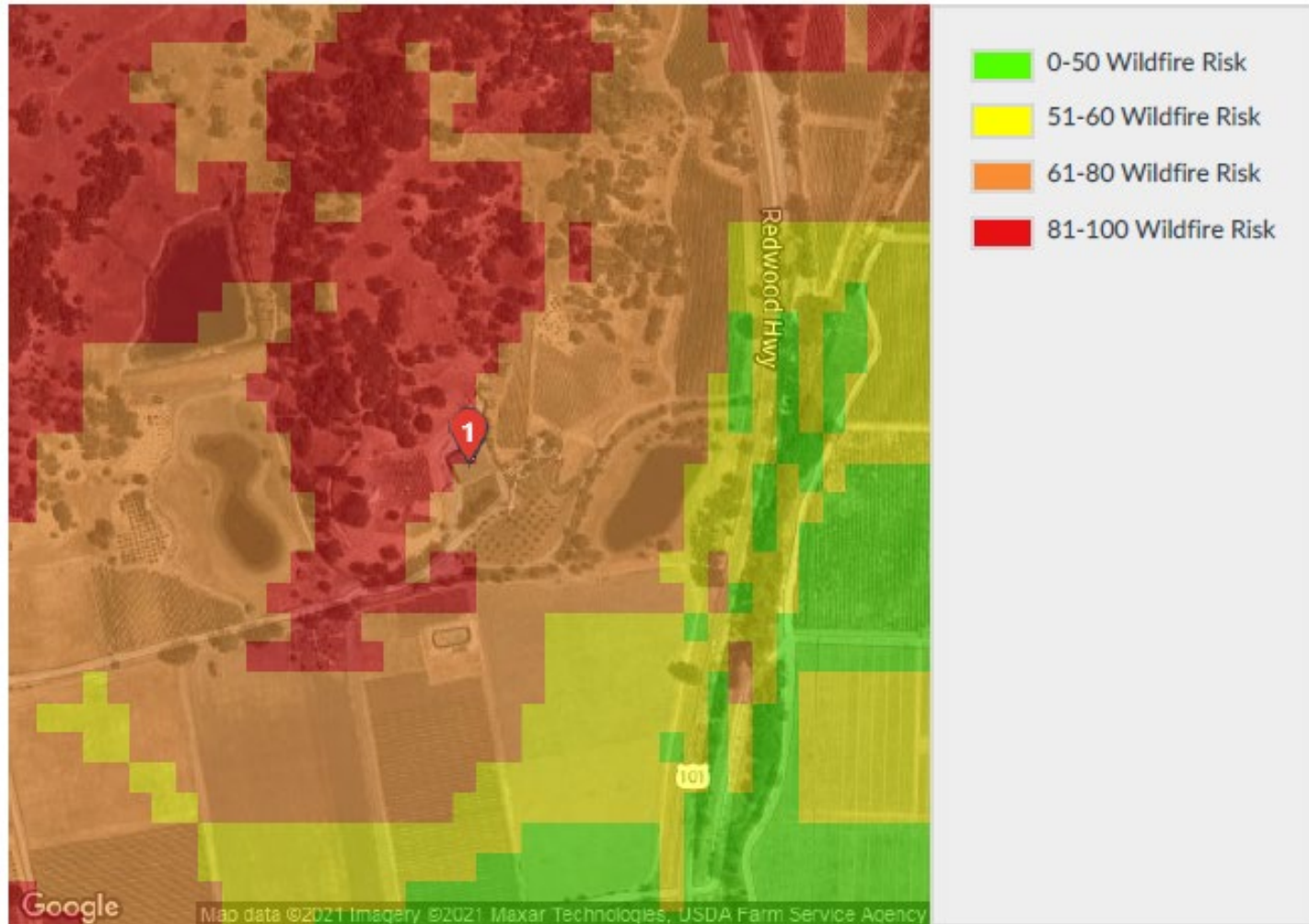
# CoreLogic- Wildfire Score



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# CoreLogic- Wildfire Score



# CoreLogic- Wildfire Score

Wildfire Risk Score: 80

RISK DESCRIPTION	Agriculture	BRUSHFIRE RISK LEVEL	1
BRUSHFIRE DISTANCE TO HIGH RISK FEET	288	BRUSHFIRE DISTANCE TO VERY HIGH RISK FEET	25,126
WILDFIRE PREBURN SCORE	N/A	BRUSHFIRE PREBURN RISK DESCRIPTION	N/A
PREBURN DISTANCE TO HIGH RISK FEET	N/A	PREBURN DISTANCE TO VERY HIGH RISK FEET	N/A
FIREBREAK LAND USE DENSITY CLASS	Scattered Residential	FIREBREAK LAND USE DENSITY LEVEL	5
FIREBREAK DISTANCE WILDLAND FEET	1,948	AVERAGE DAYS OF HIGH WIND	3
HAS RECENTLY BURNED	No	NUMBER OF PAST FIRES	8

## Past Fire Overview

### 1. Distance To Burn: 7,851

Name Of Burn: RIVER  
Size Of Burn: 48,920  
Year Of Burn: 2018

### 2. Distance To Burn: 14,143

Name Of Burn: RETECH  
Size Of Burn: 84  
Year Of Burn: 2013

### 3. Distance To Burn: 14,852

Name Of Burn: PRATT  
Size Of Burn: 41  
Year Of Burn: 2013

### 4. Distance To Burn: 18,185

Name Of Burn: MOOSE  
Size Of Burn: 196  
Year Of Burn: 2019

### 5. Distance To Burn: 21,410

Name Of Burn: MCGALL  
Size Of Burn: 14  
Year Of Burn: 2013

# Fire Prevention, Mitigation & Protection

- Confirmation the roof is Class A, no wood or shake
- Minimum 5' buffer around the dwelling, all combustibles have been removed
- If the home has a deck, confirmation there is no storage of combustibles below deck
- Confirmation the vent screens are metal and a minimum of 1/8" or finer
- Confirmation the insured has an evacuation plan in place
- If there are any propane tanks on premises, we will need confirmation they are stored over 30' from all structures
- What methods are in place to ensure there is defensible space surrounding the property?
- What procedures are in place to help mitigate a potential wildfire?
- Does the property have an additional source of water supplies with a backup generator?
- Confirmation the trees have been trimmed away from all structures
- Siding material fire resistive?
- Building Sprinklered? Perimeter Sprinkler defense system? If yes, backup generator for power?
- Fire hydrant on site? Is it registered with local FD or Cal Fire?
- Fire Pump on Site?
- Additional water storage on site? What is the source? If tank what is the material/type?
- Distance to nearest paid 24/7 Fire department?
- Do you have a brush maintenance program in place?
  - If yes, grasses cleared to at least 100' of building?
  - If yes, Shrubs cleared to at least 150' of building?
  - If yes, trees cleared to at least 100' of building?
  - If yes, are trees limbs cut to a minimum of 10' above ground out to 200' from building?



# How difficult has it been to place coverage?

## Marketing Efforts

1	Allianz	Decline
2	Chubb	Decline
3	Travelers	Decline
4	CIG	Decline
5	Liberty Mutual	Casualty Lines Only
6	Grange Insurance	Decline
7	Zenith	Decline
8	Sentry	Decline
9	State Farm	Decline
10	Farmers	Decline- Quoted renters, auto and Umbrella
11	Hartford	Decline
12	Markel	Decline
13	Great American	Decline
14	CIG Middle Market	Decline
15	Travelers Middle Market	Decline
16	Arrowhead	Submitted
17	Sure Products	Decline
18	AmWins	Decline
19	Burns & Wilcox	Decline
20	Pacific Coast E&S	Decline
21	Cbiz	Decline
22	Allianz- Inland Marine (Farm Equipment)	Decline
23	Travelers Inland Marine (Farm Equipment)	Decline
24	USLI	Decline
25	USLI inland Marine (Farm Equipment)	Decline
26	Markel Inland Marine (Farm Equipment)	\$7,500
27	PURE	Decline
28	Oregon Mutual	Decline
29	Nationwide	Decline
30	Quadscore	Submitted

31	Atlas	Submitted
32	Crum & Forester	Decline
33	Paragon WineRe	Decline
34	EMC	Decline
35	UFG	Decline
36	Hanover	Decline
37	PHLY	Decline
38	Prime Vintage	Decline
39	Brown & Riding	property indication \$1.50 property rate
40	CA Fair Plan	Quoted
41	Safeco (personal lines)	Bound <u>renters</u> policy
42	Grange (Personal Lines)	Decline
43	Travelers (personal lines)	Decline
44	CIG (personal lines)	Decline
45	Scottsdale	Quoted
46	Colony	Decline
47	Western World	Decline
48	WKFY	Decline
49	Devon Park	Decline
50	Seneca	Decline

## End Result:

Went from everything on one policy with 1 insurance carrier to 8 different policies. Expiring Premium was \$55,287 Renewal Premium was \$67,566

# Example Of Insurance Increases

1. Winery in Mendocino County, surrounded by vineyards, just off Hwy 101. \$52M in values- Went to 17+ markets, was able to obtain one complete package quote. Premium came in at \$385,000 Expiring Premium was \$101,000.
2. Winery/custom crush facility in Mendocino County- Surrounded by Vineyards- Expiring premium \$36K. Only option out of 10+ carriers. Two carriers quoted \$110,000 and \$250,000
3. Winery in Napa Expiring package premium- \$40K. Renewal offer is \$180K with more limitations on coverage.
4. Winery Sonoma County Expiring premium- \$60K- went to 22+ markets only one carrier quoted at a premium of \$120K.
5. Winery in Lake County- Expiring premium- \$42K, indications we are receiving are north of \$120K.
6. Winery in Mendocino County- Expiring Premium- \$60K. Went to 18+ markets. Ended up placing coverage on three separate policies for an annual premium of \$150,000
7. High End Boutique Hotel on the water in Fort Bragg- Expiring premium- \$32K, went to 36+ markets. One carrier quoted, \$160K in annual premium.

## Number of Non-Renewals our agency has received.

Carrier	# of Non Renewals
Nationwide	2,284
QBE	91
CIG	727
Travelers	74
Liberty Mutual	13
Allianz	189
Mapfre	38
Met Life	9
Grange	170
	3,595





# What Goes Into Our Submissions to The Insurance Carriers? Part 1.

Good Afternoon ,

Attached please find the submission . This is the account I ran by you last week in regards to the wildfire score. You said it is borderline but depending on the fire protection/mitigation plan in place you are willing to consider. Well good news. I spent the entire Friday at the insured location performing an inspection and they have done an overwhelming amount of work to protect the property for a fire loss.

## Attached Please find:

- SOV with Diagrams of location #1 broken out in to three separate levels. A "legend" is also included.
- Loss Runs
- Accord application
- Extensive packet put together by the insured in regards to all of the wildfire protection/mitigation efforts they have done.
- Photos of all buildings and locations using dropbox. <https://www.dropbox.com/sh/daad06fnz96n3vt/AAAnTrgT9xii3EntMWzSPuOHa?dl=0> I did this due to the file size.
- Core Logic fire score for location #1- 8
- Core Logic fire score for location #2- 13

## Narrative:

bought this property 20 years ago then built the winery from the ground up finishing construction around 2012-2013.

is a family-owned destination winery with vision, passion and attention to detail. They produce single vineyard, limited production wines. The wines are available only to Wine Club Members or Direct from the winery. As you tour the property you will see a great pride of ownership that radiates through the entire location/operation. The winery/tasting room operation is run by three individuals

The passion all three of them show toward this operation is truly remarkable. They absolutely love what it is they do and are fully invested in the operations.

# of cases sold per year- 550

# of cases of sparkling sold per year- 20

Estimated Wine Sales- \$330,000

Food Sales- \$25,000 (this come from their private tasting where prepares food to accompany the wine)

Merchandise sales- \$5,000

# of acres- 27; 22 planted

Tasting room sales- 20% of total sales

Olive oil sales- \$1,000

# What Goes Into Our Submissions to The Insurance Carriers? Continued....

## Loss History:

You will see there is only one property loss which was a result of a tree falling on a building. You will notice that despite being in Healdsburg and the entire city undergoing evacuation that the insured never submitted a BI claim. This goes to show that the insured is willing to self insure certain losses.

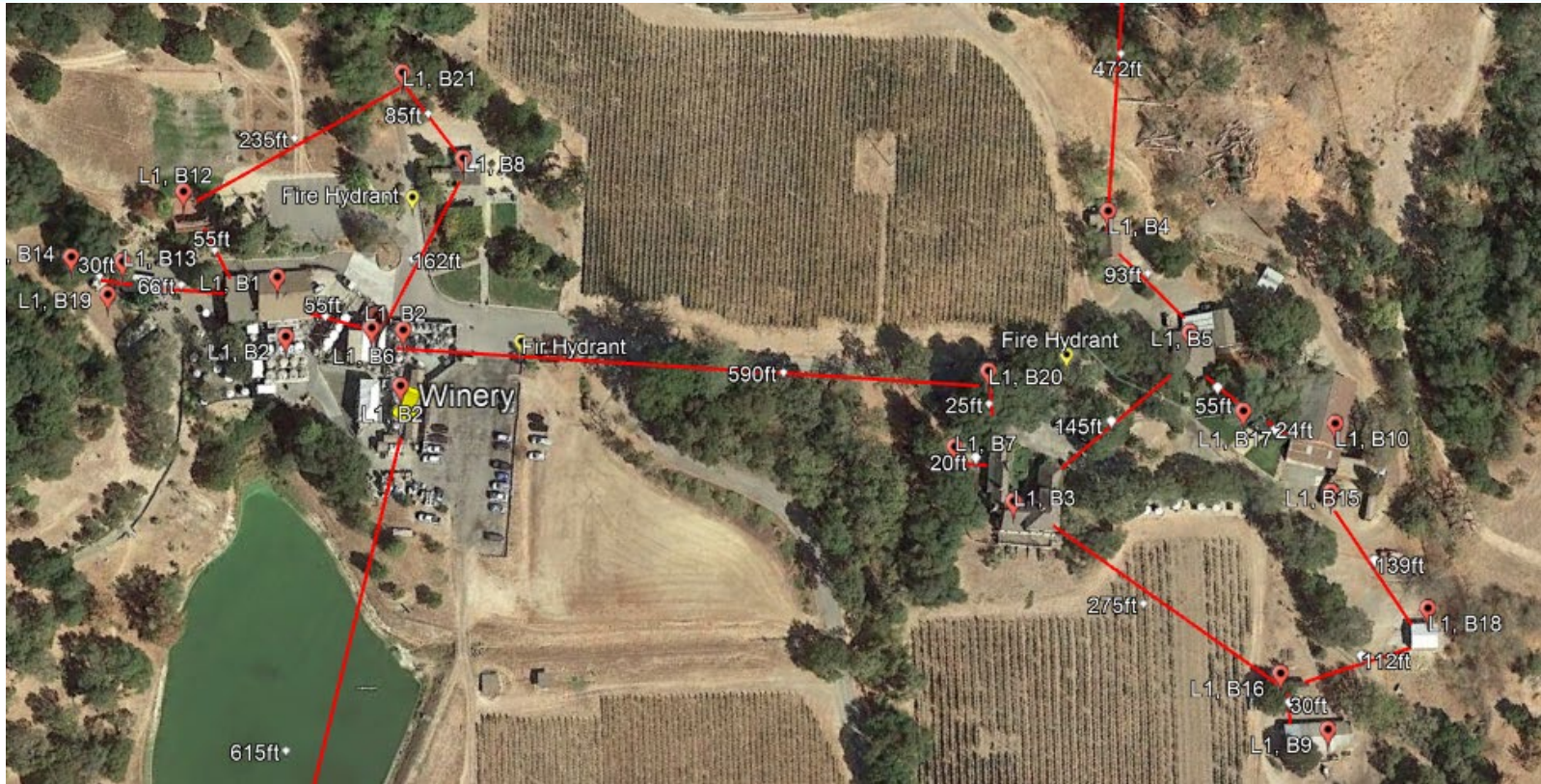
## Wildfire protection/mitigation:

- Please see attached packet. This provides an in depth overview of all the insureds wildfire mitigation and protection efforts. As you will see, the insured is VERY prepared and has taken this very seriously. I would like to note that during the fires last year, CalFire was filling up at their hydrant on site. They also used the winery location as a home base because of all the wildfire protection efforts the insured had in place.
- They are also no registered with CalFire for an onsite hydrant which is connected to a backup generator with 10 days worth of fuel.
- The insured also has over 8,000 linear feet of Class A "GutterStuff" gutter guards in all of their gutters. It is Class A rated, which means that it will not start a fire when exposed to a flame. It meets the standards required by the California Building Code Section 7A. Testing is done per Section 703A and SFM Standard 12-7A-5, Ignition-Resistant Material, in accordance with ASTM E84-18 "Standard Method of Test for Surface Burning Characteristics of Building Materials".
- All The doors to the wine cave and all the "wood fencing" you see around the property is a 4" piece of steel with a wood exterior for decorative look. But steel inside for wildfire protection.
- There are over 48 exterior surveillance cameras
- EVERY building is connected to a complex ethernet alarm system with 8 different control boards all connected to backup generators and the a cellular services, not wifi. As cellular is more beneficial since it will not lose service in the event of a power outage.
- All buildings have either metal roofing or tile roof.
- All eaves are enclosed
- All buildings are sprinklered.
- Grounds are extremely well kept. You will see photos of all the underbrush and debris removed from the valley floor, all limbs are cut up and the trees are connected to water and water on an annual basis. Also, majority of the trees on the property, as you will see in the photos, are Redwoods which have been proven to be fire resistant and can actually act as a fire break especially with a good source of water which these do have.





# What Goes Into Our Submissions to The Insurance Carriers? Continued....



# What Goes Into Our Submissions to The Insurance Carriers? Continued....

- Pictures of all 4 sides of every structure on the property
- Plot Maps
- Additional detailed information on backup generators, Wattage, fuel storage, # of days fuel storage will last, if fuel runs out, is a plan in place to refill?
- Copies of contracts (custom crush, vineyard manager, etc.) currently in force
- Fire evacuation plan
- Business Continuity plan (backup plan) in case of a loss
- Product recall plan
- Copy of contract in force with local fire strike team
- **Complete breakdown of each entity associated with the operations and to be insured under the policy. (ownership info, description of operations, relationship, etc.)**

One of many reasons why this is important.



# Complete Detailed Breakdown Of Each Entity & Its Ownership/Relationship To The Operations.

If needed can the entities be broken out and written on separate policies?

Why would we consider this?

- Total Insured Value (TIV) an issue?
- One location in a high wildfire zone which is getting the entire account declined?
- Can possibly open up the marketplace and give you additional options outside of the standard winery/ag insurance carriers.





# Example Of How This Helps

Kyler,

The big questions here is our fire exposure. Can you do me a favor and advise on the following:

- Rough breakdown of the values of equipment at each location
- Detailed description of fire prevention and equipment maintenance program
- HC loss runs, 3+ years
- Description of storage of equipment, security, etc.
- Target AP

If I don't hear from you, have a wonderful weekend.

You bet, see responses below in red.

- Rough breakdown of the values of equipment at each location I would say 50% is at ; 25% is at ; 10% at ; 15% at
- Detailed description of fire prevention and equipment maintenance program- All properties are very well maintained and cleared of all underbrush and any excess debris that may create a fire hazard. Trees are limbed up and/or removed away from buildings. At they have been very proactive about fire mitigation and prevention. They have excellent maintenance and clean up, they also constructed a fire break to help provide protection and separation from the hills to the East. They have a pond on site for water that can be used as fire protection as well.
- HC loss runs, 3+ years- Attached. You will see that these loss runs go back as far as 2013. The insured has suffered no losses to the mobile equipment. In 2017 the large CAT fire approached location but because of their efforts and fire protection they had in place at that time they did not suffer any losses to equipment or structures. And that was prior to everyone being very educated on how large and catastrophic these fires can be. Now they have ramped up their protections tremendously since everyone is much more educated on these large fires now days.
- Description of storage of equipment, security, etc. Each location is fenced, gated and locked during non business hours. A property manager lives on site at as well.
- Target AP Currently they are paying just around \$3K as part of their package policy, but due to the total TIV on the package policy were are capped at the value of equipment and total TIV we can add which is why we are looking to pull this off and write a monoline policy.

I have also attached aerial diagrams.

**For location #1, the majority of equipment is stored at L1 B9 see below**



# The Response From The Underwriter



Kyler,

This is some great stuff right here... We're still waiting for this puppy to get cleared, but I didn't want you to sit and wait for an indication. We currently have a \$5k MP, but due to our long relationship with you all, we can do it for \$2,650 AP and a \$1,000 AOP. Let me know if this will work for you. If so, I'll send out the quote and wait for binding instructions 😊

Have a wonderful weekend,



# Questions?

# Thank You!!

**Contact Info:**

**Kyler Crawford**

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**Phone: 707-376-4025**