
RISK MODELING ADVISORY WORKGROUP

Meeting Minutes– Monday, September 19, 2022, 1:00 PM – 3:00 PM

Posted October 7, 2022



Committee Members Present

Jim McDougald, Staff Chief, Office of the State Fire Marshal
Carlos Camarena, Emergency Services
Esteban Mendoza, The Insurance Commissioner
Neil Matouka, State Planning and Research
Paul Glushku, Housing and Community Development
Max Moritz and Nancy Watkins (Appointed by Department), Milliman
Dave Winnacker and Robert Marshall Fire California Fire Chiefs Association and the Fire Districts Association of California
Anthony Powers, California Professional Firefighters
Yana Valachovic California Fire Science Consortium Association
Dore Bietz, Terry Woodrow, and Joe Irvin, local government
Melissa Semcer, Office of Energy Infrastructure Safety

Committee Members Not Present

Chris Ochoa, California Building Industry

CAL FIRE – Office of the State Fire Marshal

Dave Sapsis, Supervisory Senior Environmental Scientist
Justin Johnson, Research Program Specialist I (Economics)
Richard Brechbuehl, Assistant Chief
Kara Garrett, Associate Governmental Program Analyst
Celeste Jovanovic, Associate Governmental Program Analyst

1. CALL TO ORDER

Jim McDougald

- A. Welcome
 - i. Meeting called to order at 1:05PM by Jim McDougald.
 1. Celeste Jovanovic read information regarding the Bagley Keen, and roll call was taken.
- B. Roll Call/Quorum Established
 - i. Quorum is nine people (50% plus one) – Quorum Established – Chris Ochoa was absent, but rest of the committee was present
- C. Approval of Past Meeting Minutes (**Motion Required**) – Jim requested that items C and D be switched in the agenda. Agenda was reviewed and motioned. Motion was carried unanimously

Motion:	R. Marshall moved to accept the meeting agenda; N. Watkins seconded the motion.
Action:	All members voted to unanimously approve the motion.

D. Agenda Review (**Motion Required**) – Motion was carried unanimously

Motion:	R. Marshall moved to accept the meeting minutes; N. Watkins seconded the motion.
Action:	All members voted to unanimously approve the motion.

2. OLD BUSINESS

Jim McDougald

A. Charter Review & Adoption

i. **(Original)** Review and provide a list of research, academia and industry wildfire risk models and their modeling components.

1. Materials were sent out regarding this topic from the 8/17/22 meeting. Group provided insight to the bullet point below in red, and no one had any additional changes to the bullet point below. Jim, entertained a motion to approve the Charter

Motion:	R. Marshall moved to accept the Charter; N. Watkins seconded the motion.
Action:	All members voted to unanimously approve the motion.

2. Jim will report that the Risk Modeling Advisory Workgroup Charter has been approved to the Wildfire Mitigation Advisory Committee of 9/20/22.

ii. **Suggested change:** Review and provide a list of relevant wildfire risk research models from science, academia and industry, and other sources and their purpose and relevant attributes.

B. Scoping of Workgroup

Dave Winnacker

i. What is community risk verse-based risk?

1. Should read community risk verse- **parcel**-based risk. The survivability of a community is directly intertwined to the conditions on parcels; however it is a statement of fact that survivability of one parcel is intrinsically linked to the conditions on the neighboring parcels.
2. View landscape as made up of parcels, which creates a difference between the FHSZ maps that CALFIRE produces and what a Risk Model should incorporate. If we are in an area of high or medium structure density, then the discussion should start with NIST Technical Note 2205. When Structure Separation Distance (SSD) is less than 100 feet, parcels risk must include an understanding of home hardening, because if we have the potential for conflagration where fire transitions from vegetative fuels to structural fuels as the fuel most likely to carry the fire. In these cases, we know that an unhardened home is susceptible to ignition from structure caused ember cast and the three-dimensional transport component.
3. Assessment should also include vegetation and combustible material within the defensible space or home ignition zone. This should also include the understanding of home hardening retrofits. Defensible space came about to mitigate against a home igniting surrounding wildland areas, we now use it in the opposite direction, but there's nothing about defensible space that is designed to withstand the sustained heat flux of conflagration.

ii. How do we define mitigation? Short-term and long-term mitigation.

1. FHSZ are intended to be for 30-year view and do not give credit for short term mitigations as they are not likely to be sustained over the entire period. For a mitigation to be scored, we must be able to show that it remained present over the long term, because these maps are intended to be in place for a significant period.
 2. Short term mitigation, what has been done? Also need to understand the long-term maintenance, and thinking about how landscape, being defined as made-up of parcels with at least annual verification of short term mitigations, as then this could reduce risk. Doing work 1x time should not be considered as a long-term mitigation, as continual work will be needed and cannot be sustained for 30 years.
- iii. What are your expectations of this workgroup, so we can focus on which direction we can go?
1. Two ways, short-term making up the long-term mitigations. First way, home hardening, landscape vegetation management, as well as what work has been done within a community's sphere of influence. This can be described as the fire pathways out of surrounding undeveloped lands and into communities. Being able to interrupt a fire pathway into a community is an important mitigation which amplifies the value of defensible space and home hardening efforts. Secondly, it is critical to educate residents regarding what constitutes the accepted mitigation standard. The lack of a consistent standard is making it difficult for stakeholders operating in multiple jurisdictions to determine what mitigations are present. Therefore, to create some consistency for residents, it is important to define what the bare minimum of mitigation that can be used for all parts of CA, recognizing that different areas have different terrain, but creating some standards which are verifiable that stakeholders can follow.
 2. Insurance side, more can define mitigations and maintain the practicality of the mitigations. Some questions to ask: How homes looked when were they last assessed? What was the assessment looking for and how was it verified?
 3. Identify the risk factors that affect the parcel in the community and then we will define those mitigations. How should this be assessed and the measures that each one of these risk factors we identify how they're measured? How are we defining "annual?" might want to include in this paper? Also, need to think about cost of using this model. How are we actually defining risk? **Risk is defined as wildfire risk to parcels and community.** How are we defining hazard, is this including weather patterns? Understanding that fire behavior is variable as a function of environmental conditions under which the fire occurs. Are there other methods to get people to mitigate against risk? Might want to think about a density formula, thinking about embers and structure separation distance. Might want to define barriers to mitigation, what is a driving those factors whether someone is going to implement mitigations, cost plays a role in this and the affordability to implement these mitigations. It's the application of the presence or absence inside a modeling framework that recognizes the different value a parcel has on the communities, exposure to wildfire laws knowing that. Recognizing that no matter how much mitigation is done, in some areas, it will still not protect a home from fire destruction.
 4. Defining Mitigation: Scoring mitigations, what mitigations must be present to count as having meaningfully reduced risk and how are they verified? Understanding that we benchmarked against a 30-year hazard map, it is

important to keep in mind that these mitigations often only provided value for the remainder of the current fire season. If we place a percentage on reduced risk, for example 15%, what is the acceptable amount of damage can a parcel take before the fire damage self-replicates and destroys the property. As we are trying to prevent structure ignition, maybe thinking about loss not damage. Need to ensure that we are accounting for the offense and defensive effects of the effective firefighting response and the command-and-control systems that organize these efforts. For this, we need to included data such as response times, weight of attack, mutual aid systems etc. This may result in a tiered system where we define mitigation, considering that topography and surrounding vegetation (forest, grass, brush) are different, and these differences need to be accounted for. Retrofit is a critical component and we need to keep that in mind when looking at mitigation factors.

3. NEW BUSINESS

A. FHSZ Hazard Model Presentation – (20 minutes)

Dave Sapsis

B. Milliman Modeling Presentation – (Virtual, 20 Minutes) **Matt Chamberlain, Principal**

4. ROUNDTABLE

Jim McDougald

A. Requested that we all attend in person.

5. PUBLIC COMMENT

6. UPCOMING MEETING DATES FOR 2022

Third Monday of each month starting at 1 PM and ending at 3 PM.

Next meeting is October 17, 2022

7. MEETING ADJOURNMENT (Motion Required)

Jim McDougald

Motion: R. Marshall moved to accept the Meeting Adjournment; N. Watkins seconded the motion.

Action: All members voted to unanimously approve the motion.