



# Fire Safe San Mateo County

December 9, 2020  
General Meeting Minutes

Online conference call. No in-person meeting

## Commence 9:37 AM

### I. Attendance:

Online Zoom conference call in lieu of in-person meeting due to COVID-19 meeting restriction due to sheltering-in-place order.

69 members attended the meeting.

### II. Introduction

Council President Denise Enea welcomed all members who called into the meeting. Introduced first presenter, Jamie Kostelnik.

### III. *Post-fire debris-flow potential in the area burned by CZU Lightning Complex, California* Jamie Kostelnik, Dennis M Staley, and Jason W. Kean. USGS.

- From Golden, Colorado. In charge of outreach and communication regarding debris-flow in post fire scenarios.
- Dennis Staley and Jason Kean developed the model used to perform the hazard assessment. As well as research to verify what the models show.
- Debris flow: a debris flow is a form of rapid mass movement in which a combination of loose soil, rock, organic matter, air, and water mobilize as a slurry that flows downslope
  - o A response of short berth high intensity rainfall
  - o Not a model for erosion or runoff.
- Key points
  - o Debris flows have been generated multiple times in the SF bay area including post-fire debris flows associated with the Basin complex (2008) and Lockheed (2009) burn areas
  - o The USGS provides estimates of debris-flow likelihood, magnitude, combined hazard, and rainfall threshold
  - o Steep watersheds burned at moderate and high severity may have elevated debris-flow susceptibility for several years following fire.
- What they do?

- Develop rainfall thresholds on an intensity and temporal scale and likelihood of debris flow
- Typically model accurately for 1-2 years until vegetation starts to regrow.
- History of destructive landslides and debris flows
  - January 3-5, 1982 Storm, 10 counties in the bay area
    - Half the annual mean precipitation fell in 32 hours
    - Peak 15-minute rainfall intensities 20-30 mmh<sup>-1</sup>
    - 18,000 landslides and debris flows
    - 20 total fatalities.
  - \*\*\*\*Post fire debris flows are different than high intensity storm debris flows. The effects and susceptibility are similar but the mechanism for initiation is different\*\*\*\*
- Predicting Debris flows and Their Impacts
  - Where, when, and how big?
    - Not how far they will travel
  - Where?
    - What drainages are most susceptible?
  - When?
    - How much rain will it take?
  - How big?
    - Volume of magnitude
- Inputs?
  - Soil burn severity
    - 43% of CZU fire was high to moderate severity burn
  - Steep slopes
    - Much of the burned area contains steep slopes, with much of the area exceeding 50-60%
  - Soil erodibility (lesser degree of input compared to burn severity and slope steepness).
  - Change in vegetation cover
  - Rainfall intensity
  - Results:
    - Debris flow likelihood
    - Potential magnitude
    - Combine hazard.
- Most of the burn area is estimated to have a moderate to high level of debris flow hazard
  - Santa cruz county contains areas with the highest level of debris flow hazard.
  - Most watersheds are estimated to produce volumes between 1,000 and 100,000 m<sup>3</sup>
- Rainfall thresholds – are determined by basin topography, severity of fire, change in vegetation cover, soil properties, and rainfall intensity
  - Fire wide rainfall thresholds
    - 15 minute: 26 mmh<sup>-1</sup>

- 30 minute: 20 mmh<sup>-1</sup>
  - 60 minute: 18 mmh<sup>-1</sup>
- Summary of findings
  - 111 values at risk within downslope/downstream of fire
  - 19 VARS determined to have a high life safety threat, while 35 VARS had a moderate risk
  - Most of the high life safety threats were associated with potential debris flow hazards
  - Many include multiple structures on alluvial fan deposits in the Boulder Creek area, and along state routes 9 and 236
- CZU lightning complex fire: monitoring for early warning support and advancement of science
  - Have equipment on the ground that monitors if a debris flow occurs and what the rainfall threshold was at the time.
  - Used to verify and calibrate the model for the future.
  - NOT an early warning signal.
  - Once the equipment has recorded a debris flow, it is too late to issue an early warning.
- Google: “post fire debris flow”, and their website will pop-up:
  - [https://landslides.usgs.gov/hazards/postfire\\_debrisflow/](https://landslides.usgs.gov/hazards/postfire_debrisflow/)
- Take home messages
  - Post-fire debris flows can occur within minutes of intense rain, and repeatedly after a fire. Elevated hazard can persist for several years following fire.
  - This region has a history of producing dangerous landslides and debris flows.
  - The USGS provides estimates of debris-flow likelihood and potential magnitude, combined hazard, and rainfall threshold to improve situational awareness and reduce public risk. Data are available at: [https://landslide.usgs.gov/hazards/postfire\\_debrisflow/](https://landslide.usgs.gov/hazards/postfire_debrisflow/)
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*Questions:*

- Denise: Can you elaborate on post-fire areas being water repellent?

- Jaime: when you burn vegetation, the soil creates a waxy layer that is close to the surface. Water does not absorb into the soil post-fire, it sheets off the top of the soil.
- Denise: Does soil type matter?
- Jaime: I can't imagine it doesn't matter, but I don't know enough to say. But in hazard assessment maps, the soil type is less important.
- Denise: do you present recommendations?
- Jaime: we do not make recommendations for mitigation.
- Joshua: can this information be extrapolated to areas that have not burned, or areas where fuel reduction projects have been done?
- Jaime: there is some research on pre-fire assessments, but we haven't published anything about that. The answer is yes and no, but it's possible, however, we haven't done it at a large scale.
- Nikki Hansen: how long does the post-fire waxy layer take to breakdown?
- Jaime: I don't know, but it's probably site-specific and soil type specific. There are scientists who do this type of work to determine the hydrologic properties of the soil have changed. In 1-2 years, the hazard is decreasing, probably something to do with soil repellency, as well as new veg growth.
- Nikki Hansen: Can you re-explain the difference between 1 and 2
- Jaime: Map 1 is the likelihood (percentage) of debris flow given a 24 mm/hr storm. Map 2 is the volume in cubic meters.
- Denise: Could the debris flows be as devastating as in Santa Barbara and Montecito?
- Jaime: it's hard to say, the area is different, but we are using the Montecito event as a worst case scenario.
- Craig Beckman: Who takes the lead to use this data and take actions?
- Jaime: California has WERTs (Watershed Emergency Response Team) who take the lead on going in the field and using this data. They do their own hydrologic monitoring and utilize our data. They provide us with the input data that we need. We give them a full report of our findings on a 24 hour turnaround time.
- Denise: Who then shares this information?
- Jaime: I'm sure the WERT team shares the data.
- Discussion commences about how to notify residents of this WERT information.

#### IV. Update: Regional grant task force update, Denise

- Sarah Collamer and Rich Sampson (both CalFire) on grants coming down the pipeline

- Rich: No additional money coming down the pipe. Hopefully more info after the first of the year.
- Denise: Is the state concerned about the next fire season? Don't they want fuel reduction work to start?
  - Rich: They want the projects to start, but there is no money to be found. All the greenhouse gas money is gone. Covid has caused severe budget cuts.
- Denise: South Skyline FSC (hereafter SSFSC) had a meeting with supervisor horsley to create shovel ready projects. To have the projects ready is very important. We think we should do a shaded fuel break along all of highway 35. It's a massive evacuation route, it's extremely heavy fuel load, and it's where many of the fires occur. The county however doesn't have money to fund a project of this size. SSFSC has the project in phases, with phase 1 beginning in the southern most section along a 5.8 mile area, with CEQA approval. Phase 2 goes to HWY 84 and is 4.7 miles. Phase 3 is HWY 84 to 92 and is ~13 miles. Cost estimated at 1.6 million dollars. We want to create a task force of many stakeholders. **If you are interested in serving on the task force, email Denise.**
- Rich Sampson: We (CalFire) would support this.
- Supervisor Don Horsley: I asked SSFSC to break the project into smaller segments to fund portions of the project. But I agree it is high priority.
- Debra Born from SSFSC: I think we should look at crossing county lines and working collaboratively, but breaking the project into smaller segments.

#### V. Neighborhood Chipper Program

- November 2020 events report
- CA Fire Safe Council Chipping Grant Update

#### Coastside Chipping – Sheena Sidhu (RCD)

- Several events that happened October through November
  - Funded partially through Measure K and other post-fire funding from the county.
  - El Granada (54 cubic yards), Montara/ Moss Beach (108 cubic yards), La Honda (270 loads), Loma Mar (97 loads)
    - Tons of volunteer help for La Honda and Loma mar.
    - We also utilized project Jericho (to be more thoroughly covered in subsequent meetings) and would like to use them again in the future.
  - For the drop off (as opposed to curbside) events we offered a company that could pick up debris from households that did not have access to a truck.

#### South Skyline Fire Safe Council

- Had two events

- 72 homes about 32 percent were in San Mateo County.
- SSFSC will be increasing their budget request for next year as the need for chipping events is increasing.

#### Bayside Chipping – Denise Ennea

- We chipped 800 homes in the Highlands
  - 4 days of chipping and 150 cubic yards.
- Kings Mountain Area
  - Because of small roads, we had to use our utility trucks.
  - We did 25 cubic yards and about 47 homes.
  - They are excited to do the event again.
- Follow up questions
  - Casey from PMAC – why hasn't chipping happened in Butano Canyon
    - Sheena: Combination of reasons. There were more urgent post-fire needs that were identified and there were significant hazards within the community both during and after the fire that prevented the event from occurring, as well as the risk of spark fire from people using equipment (chainsaws) to remove vegetation
- Discussion on coordinating chipping events for the Spring
  - Rich Sampson: we would like to have chipping events done before July 15<sup>th</sup>.
  - Discussion proceeded about not holding events in the late Summer and early Fall due to unsafe fire conditions (low humidity and high temperatures).

#### VI. Grant Application Update: SMC OES haz Mitigation Grant Application – Dan Krug (San Mateo County Parks)

- RCD approached county parks on collaborating for FEMA hazard mitigation grants through Cal OES.
- Needed to have an organization with a hazard mitigation plan – county parks
  - Picked 4 that were on our fuel reduction priority list
    - San Bruno mountain – 200' wide fuel break and shaded fuel break beyond that
    - Quarry park – 200' fuel break
    - Edgewood – 17 acre project, shaded fuel break
    - Junipero Serra Park – 18 acres, shaded fuel break
- We filed notice of intent to apply, they are currently under review and we will know in early January if we are capable of applying formally.
- All projects combined to 1-1.3 million dollars
- Large scale projects that include full tree removal.

#### VII. Project Update: HWY 84 Eucalyptus reduction by Cal Trans

- Denise Ennea

- Shaded fuel break from Skyline Boulevard down to Woodside
  - o We cleared 25-50 feet on either side of HWY 84
  - o We only got halfway done because CalTrans could not assist with traffic control – so the veg removal crews needed to take on the burden of traffic control.
  - o CalTrans agreed to remove 15 giant eucalyptus trees at the bottom of HWY84 as retribution for not contributing on fuel reduction project.
  - o Should be done in the next 1-2 months.

*Follow-up Discussion*

- o Dan Krug: These are the trees on the median between Portola road and highway 84?
- o Denise: Yes
- o Dan: We have 11 more trees in their right of way that we would like removed.
- o Denise: I am trying to get CalTrans reps to be included on this meeting in the future.

*VIII. Announcement and Discussion: For the good of the group – All Membership*

- Sheena: There was a subcommittee on the cameras, are there any updates on cameras or camera locations?
- Denise: Foggerty Winery approved a camera.
- Rich Sampson: We got a camera on Bielawski, Allen Tower, Castanea ridge, Sweeney Ridge, College of San Mateo, Jasper Ridge, Satellite Dish on Stanford, and several more on the coastside that we are looking at. Montebello on Midpen land, so we're actually doing pretty good. We've had at least 10 cameras installed this summer.
- Denise: We should put something on our firesafe website

*IX. Adjourn*

- Meetings the second Wednesday of every month
- **January 13, 2020**