2025 Progress Report

EMC-2022-005: Decay Rates and Fire Behavior of Woody Debris in Coastal Redwoods

This research investigates the effectiveness of the current FPRs in mitigating the wildfire hazard and risks for "normal" fire scenarios (i.e., conditions in which an initial attack is more likely to be successful) or in which fuel treatments have a higher likelihood of being effective. To that end, this study focuses on at industrial timberland slash treatments (e.g., lop and scatter) along public roads, specifically targeting Title 14 CCR 917.2 and Technical Addendum #2 – Cumulative Impacts, H. Wildfire risk and hazard (2-4) to determine if the rules are adequate to decrease fire behavior.

Field work for the plots was completed in February of 2026 – a wet fall and winter pushed the final few field days into February. Currently, the team is compiling the data into a database to run in FVS. The delay in completing the field work has delayed the analysis process. The oven was finally purchased in late 2024. The delay in obtaining the oven pushed the decay analysis portion of this project back significantly. Field collection is ongoing, and drying will commence shortly.

Preliminary results for fuel loading in harvested and unentered second-growth stands suggest that there are differences in the categories of fuel (Figure 1). For example, the unentered second-growth stands have more 1-hour fuel on average than the harvested stands. However, the harvested stands have more 1000-hour sound fuel while the unentered second-growth stands have more 1000-hour rotten fuel. These differences could change fire behavior – having increased 1-hour fuels could influence a faster-moving fire, while the differences in the 1000-hour fuel might increase the radiant heat that is being put off next to a road.

	Harvest Stands	Unentered 2nd Growth Stands
Average 1 Hour *(ton/ac)*	0.55	1.42
Average 10 Hour *(ton/ac)*	1.29	1.19
Average 100 Hour *(ton/ac)*	2.37	1.70
Average 1000 Hour Sound *(ton/ac)*	23.01	12.10
Average 1000 Hour Rotten *(ton/ac)*	12.80	24.28
Average Litter Depth *(in)*	1.26	1.03
Average Duff Depth *(in)*	1.10	1.34
Average Fuel Bed Depth *(in)*	5.70	4.97

Figure 1: Average ton/ac for each fuel category and compared between Harvested Stand and Unentered Second-Growth Stands.

Due to the weather and unforeseen purchasing delays, the timeline for the deliverables has been updated (Table 1). The majority of the work left to do was outside of the grant funding period in the proposal so there are no changes there.

Updated Deliverable Timeline

Deliverable	New deadline	Notes
Final Project Report/Presentation/CRA	Jan-26	
Field Tour	March -June 2026	Weather Dependent - will work with the EMC Board to determine a date
Submission of Publication	Aug-26	
Additional Outreach	Start in March 2026 and ongoing	This would include Conference Presentations, UC ANR Hosted Field Tours, Factsheet creation etc.