EFFECTIVENESS MONITORING COMMITTEE
P.O. Box 944246
SACRAMENTO, CA 94244-2460
Website: www.bof.fire.ca.gov
(916) 653-8007

Effectiveness Monitoring Committee (EMC)
Meeting Record

Meeting Date and Time: Thursday, November 14, 2024 9:30 AM

Noticed Meeting Locations:

- North Coast Regional Water Quality Control Board – 5550 Skylane Blvd, Suite A, DCJ Room, Santa Rosa, CA 95403 (primary meeting location)
- CNRA Headquarters – 715 P Street 20th Floor, Room 102, Sacramento, 95814
- University of California, Santa Barbara – Noble Hall Room 2221, UCEN Rd, Goleta, CA 93117

A recording of the meeting may be viewed in two parts:

https://calfire.box.com/s/vfmiz4ynpoktrny1z4dd706gt7bp9huh
https://calfire.box.com/s/k0fi2bz72qc3vcebtzd9jwdv2x2fzujr

The agenda is posted online.

1. Call to Order, Hybrid Meeting Format, Roll Call, and Core Values – Dr. Kristina Wolf, *Board staff*

Dr. Kristina Wolf called the meeting to order, reviewed the hybrid meeting format and methods for interacting with the committee, and called the roll:

- **Members Present (11)** – Michael Jones, Leander Love-Anderegg, Sal Chinnici, Ben Waitman, Drew Coe, Givonne Law, Clarence Hostler, Clesi Bennett, Izaac Russo, Liz Forsburg-Pardi, Marjan Ghotbizadeh
- **Members Absent (5)** – Mathew Nannizzi, Matt O'Connor, Stacy Drury, Jonathan Meurer, Bill Short
- **Staff Present (3)** – Kristina Wolf, Jennifer Lau-Malcidem, Steven Fountain
- **Audience Participants (14)** – Will Olsen, Roberta Lim, Cheryl Griffith, Nick Miley, Nadia Hamey, Travis Freed, Kristy Swor, Jeanette Griffin, Ed Laskey, Clare Lacy, Jim Rivers, and three (3) unidentified phone attendees

A quorum was present.

2. Report by the Co-Chairs – Dr. Elizabeth Forsburg-Pardi and Drew Coe

Member Coe reported:

- California Forestry Report #8 is in the final stages of revision.
  - This report covers the legislative report regarding the second round of salvage logging in post-fire emergencies.
  - The target completion date for this report is the end of 2024.
- In a study with Northern Arizona University, Member Coe was able to begin a new phase of evapotranspiration data collection to measure redwood resilience on the Caspar Creek study.

EFFECTIVENESS MONITORING COMMITTEE
P.O. Box 944246
SACRAMENTO, CA 94244-2460
Website: www.bof.fire.ca.gov
(916) 653-8007

- Member Coe is speaking at the California Licensed Foresters Association on November 15th, 2024 about watershed cumulative effects analysis.
- Member Coe's team is working on a new FORPRIEM 2.0; sampling will be more automated and objective, updating protocol elements, and expanding the scope beyond water quality focus to look at fuels, treatments, and more.

Dr. Wolf noted:

- The EMC's 2024 Annual Report and Workplan will be developed shortly. Dr. Wolf asked that project liaisons update their projects' paragraphs with any relevant updates.

Member Forsburg-Pardi reported:

a) Full Project Proposal Funding updates
   - All funds have been encumbered for fiscal year 2024-2025 for projects that are ongoing.
   - The grant agreements for the projects approved in October 2024 for the 2024/25 Fiscal Year cycle are in development.

3. Review of Open Seats and Nominations to the EMC – Dr. Wolf, *Board staff*

Dr. Wolf reported:

- There are currently two unoccupied seats (one monitoring committee, one agency representative for US Fish and Wildlife Service).
- One agency representative is needed to backfill Member Dr. Drury's seat as agency representative for the US Forest Service.

4. Progress Report Presentation: EMC-2022-004: Assessing Fire Hazard, Risk, and Post Fire Recovery for Watercourse and Lake Protection Zones (WLPZ) and Riparian Areas of California – Nick Miley, *Spatial Informatics Group*

Nick Miley presented: 4. Progress Report Presentation EMC-2022-004

Introduction

- High-severity wildfires have damaged California's water networks and riparian zones. This project seeks to assess fire history, current fire hazards, and vegetation recovery in California's WLPZ areas, focusing on burn severity, vegetation changes over time, and the impact of forest management practices.

Methodology

- Working on developing a streamflow model to locate WLPZs for all watercourses (using 300' buffers, Cal Hydro lines)

EFFECTIVENESS MONITORING COMMITTEE
P.O. Box 944246
SACRAMENTO, CA 94244-2460
Website: www.bof.fire.ca.gov
(916) 653-8007

- Using Topographic Wetness Index (TWI), which combines flow and slope, to identify areas with higher soil moisture that has a higher likelihood of supporting permanent streams (transitions between Class II and III streams)
  - Currently a mismatch between locations of modeled streams and actual locations
- Creating a dashboard to assess burn severity data (MTBS + RAVG, 1984-2023) and acres burned (1970-2023)
- Creating Post Fire Vegetation Monitoring System using 30-meter Landsat imagery run through the GoogleEarth engine; have also used NDVI data from LandTrendr
- Combining stream classification, fire history, and THP data
- Assessing trends in fire severity and vegetation cover; analyzing influence of topography on trends; determining if management activities had an influence on these trends

Results to Date

- Using 300' buffers around streams does capture the fire disturbance signal
- Historically, low severity fires are most common in WLPZs statewide
- In 2020, 435K acres of WLPZ burned (34% high severity)
- Plumas County Case Study: Dixie Fire signal varies by property type and WLPZ classification
- Federal and Private-Industrial lands have highest fire severity in and out of WLPZs
- 2020: Fire severity increases slightly moving towards WLPZs
- 2021: Fire severity decreases moving towards WLPZs

Next Steps

- Augment WLPZ dashboard data
- Expand Plumas County case study to include additional stream groups and fires
- Refine distance analyses; develop Long Short-Term Memory Model
- Perform targeted field site visit to incorporate PFVM informed ground truthing, UAV imagery, and 360° imagery

5. Progress Report Presentation: EMC-2022-003: Santa Cruz Mountains Post-Fire Redwood Defect Study California – Nadia Hamey, *Hamey Woods*

Nadia Hamey presented: 5. Progress Report Presentation EMC-2022-003

Background

- This study occurs in the footprint of the CZU Lightning Complex Fire (San Vicente Redwoods property, Cal Poly's Swanton Pacific Ranch, ~160 trees in total).
  - 43% of this property burned with high severity.
  - This study aims to address the fire resilience thresholds of redwoods.
  - *Coniophora puteana* hyphae uses enzymes to digest wood, causing discoloration and rot pockets.
- Cambium checks were performed at each chosen tree in both study areas. Additionally, sonic tomography was used to assess the structural integrity across a cross-section of each tree.

EFFECTIVENESS MONITORING COMMITTEE
P.O. Box 944246
SACRAMENTO, CA 94244-2460
Website: www.bof.fire.ca.gov
(916) 653-8007

- Electrical impedance was used to show the water content across the same cross-section of each tree.

Research Questions

- How much decay is out there? Can we predict the level of defect caused by a fire by looking at post-fire effects of Coast redwood?
- Is sonic tomography and electrical impedance an accurate method to detect decay and water content when compared to the cross section of a Coast redwood?

Preliminary Results

- Majority of logs showed discoloration of the sapwood.
- The big end of the first log (16' log lengths) had an average circumference decay of 34%.
- The average volume reduction of the first log was 21%.
- No relationship was observed between DBH and % decay.
- A positively correlated relationship was observed between % of tree branch sprouts and % of tree bole sprouts.
- Defect rate did not increase with fire severity (but, this does not mean the wood will not decay in the future).

Future Work

- Measure internal decay progression of trees that have not yet been cut.
- Create field guide to aid foresters with this study's findings.

Drew Coe asked:

- Using low severity fire as an analog for prescription fire, it appears there is a tradeoff using prescription fire in redwood forests (levels of rot were observed). Is prescriptive fire in such areas still worth it?
    - Ms. Hamey believes that prescriptive fire is definitely worth pursuing in these stands.

6. Assignments for Project Liaisons and Completed Research Assessments – Project Liaisons and Board staff

- **EMC-2016-003: Repeat LiDAR Surveys to Detect Landslides** - This project will need a CRA liaison to work with Member O'Connor; this work should begin in 6–9 months.
- **EMC-2017-002: Boggs Mountain Demonstration State Forest Post-Fire Automated Bird Recorders Study -** Co-Chair Coe indicated that a senior at Western Washington University is going work with this dataset in the upcoming semester, so more results should be produced by late spring. This project is still waiting on the FRAP data.
- **EMC-2023-002: Assessing Fire Hazard, Risk, and Post Fire Recovery for Watercourse and Lake Protection Zones (WLPZ) and riparian areas of California** There is some confusion regarding the correct project number for this item. Dr. Wolf will come back to this project to make sure its number is correct, and it has a project liaison.
- **EMC-2017-001: Effects of Forest Stand Density Reduction on Nutrient Cycling and Nutrient Transport at the Caspar Creek Experimental Watershed -** This project is waiting on a Completed Research Assessment; Co-chair

EFFECTIVENESS MONITORING COMMITTEE
P.O. Box 944246
SACRAMENTO, CA 94244-2460
Website: www.bof.fire.ca.gov
(916) 653-8007

Coe intends to work on the CRA but was unable last year due to the fire season. Member James Burke was also assigned to work in that role, and he will shift that to an individual in his office (Dr. Lance Leigh).

7. Project Updates – Project Liaisons and Board staff
   - **EMC-2023-003**: Data collection for this project was completed in summer 2024; the project is currently on schedule.
   - **EMC-2019-003:** Co-chair Coe indicated that he would be satisfied with two peer-reviewed manuscripts as a final product for this project. Eventually, this project will need to be assigned a CRA liaison.
   - **EMC-2018-006**: CRA for this project should be prepared by the next meeting.
   - **EMC-2019-002**: Co-chair Coe noted that the EMC previously discussed that the final deliverables for this project did not meet expectations. The CRA for this project will be prepared by the next meeting.
   - **EMC-2017-006**: Still needs a final project report (final presentation has already been given). Co-Chair Coe will talk to Member O'Connor about the deliverables for this project.
   - **EMC-2017-007**: The final report for this project was submitted in 2022. A new revised draft was submitted in 2024 but has still not been approved for release to the EMC. Member Anderegg agreed to be the CRA liaison for this project.

8. Strategic Plan Revision and Discussion of EMC Research Program Ranking and Review Process – Dr. Wolf, *Board staff*

8. 2025 EMC Strategic Plan Update

8. 2025 EMC Strategic Plan Update - Red Line

Dr. Wolf noted:

- In revisions to the Strategic Plan, there were concerns about the potential for conflicts of interest to affect the project ranking system (Section 4.2).
- Previous applicants have been concerned that their project was not funded even though it was ranked higher than a funded project; this was due to a difference in the level of funds each project requested.
  - "and the requested budget" has been included in the Strategic Plan to clarify it is a factor in awarding funding.
  - A phrase indicating that the ranking score is merely a metric to guide EMC members in the project-selection process will be added. Member Anderegg suggested the rankings be called "initial quantitative assessments."
- Additionally, Dr. Wolf, Member Anderegg, Member Coe, and numerous EMC members had a discussion regarding the ability of PIs to comment and provide clarifying answers about projects during the decision making process.
  - Requested, funding-contingent changes to project proposals will be documented.
- The discussed changes will be incorporated into the Strategic Plan before the next meeting and voted on then.

EFFECTIVENESS MONITORING COMMITTEE
P.O. Box 944246
SACRAMENTO, CA 94244-2460
Website: www.bof.fire.ca.gov
(916) 653-8007

9. Charter Revision – Co-Chairs Forsburg-Pardi and Coe

9. 2025 EMC Charter

9. 2025 EMC Charter - Red Line

Dr. Wolf reviewed the minor changes that had been made to the charter since the EMC last saw it.

VOTE RECORD:

- Recommendation to approve the newest revision of the Charter, incorporating Co-Chair Coe's recommendation to move adaptive management to the top of the Values list.
- **Motion:** Member Chinnici
- **Second:** Co-chair Coe
- **Discussion (if any)**: none

Member	Vote (Aye, Nay, Abstain, Absent)
Ben Waitman	Aye
Givonne Law	Aye
Jonathan Meurer	Absent
Marjan Ghotbizadeh	Aye
Clarence Hostler	Aye
Bill Short	Absent
Clesi Bennett	Aye
Stacy Drury	Absent
Matt O'Connor	Absent
Sal Chinnici	Aye
Mathew Nannizzi	Absent
Leander Anderegg	Aye
Michael Jones	Aye
Co-chair Drew Coe	Aye
Co-chair Liz Forsburg-Pardi	Absent
Izaac Russo	Aye

The motion passed unanimously. The charter will be finalized and sent to the Board for its December meeting.

10. Revised Draft Completed Research Assessment: EMC-2018-003 – Alternative Meadow Restoration – Dr. Matt O'Connor and Dr. Leander Love-Anderegg, *EMC Members*

10. Revised Completed Research Assessment

Dr. Anderegg reported:

- The information on effects of meadow restorations is useful.

EFFECTIVENESS MONITORING COMMITTEE
P.O. Box 944246
SACRAMENTO, CA 94244-2460
Website: www.bof.fire.ca.gov
(916) 653-8007

- Regarding applicability, meadow restorations are a fairly rare project type. Most of the useful findings from this study came from a single meadow.
- Only minor edits were made to the CRA since the last draft reviewed by the EMC.

Co-Chair Coe noted:

- This project type may soon become less rare due to a rule plead currently in front of the Board about timber operations in WLPZs.
- A presentation of this final CRA before the Board could be useful.
    - Leander Anderegg volunteered to aid in a presentation the Board, though noted this was not his area of expertise.

VOTE RECORD:

- Recommendation to present the results of the CRA for EMC-2018-003 to the Board.
- **Motion:** The member who made this motion did not identify themselves.
- **Second:** Member Chinnici
- **Discussion (if any)**: none

Member	Vote (Aye, Nay, Abstain, Absent)
Ben Waitman	Aye
Givonne Law	Aye
Jonathan Meurer	Absent
Marjan Ghotbizadeh	Aye
Clarence Hostler	Aye
Bill Short	Absent
Clesi Bennett	Aye
Stacy Drury	Absent
Matt O'Connor	Absent
Sal Chinnici	Aye
Mathew Nannizzi	Absent
Leander Anderegg	Aye
Michael Jones	Aye
Co-chair Drew Coe	Aye
Co-chair Liz Forsburg-Pardi	Absent
Izaac Russo	Aye

The motion passed unanimously.

11. Progress Report Presentation: EMC-2022-005: Decay Rates and Fire Behavior of Woody Debris in Coastal Redwoods – Tori Norville, *U.C. Cooperative Extension Fire Science Advisor*

Tori Norville presented: 11. Progress Report Presentation EMC-2022-005

EFFECTIVENESS MONITORING COMMITTEE
P.O. Box 944246
SACRAMENTO, CA 94244-2460
Website: www.bof.fire.ca.gov
(916) 653-8007

Critical Monitoring Questions

- Are the FPRs and associated regulations effective in managing fuel loads, vegetation patterns, and fuel breaks for fire hazard reduction?
- Are the FPRs and associated regulations effective in treating post-fire slash and slash pile to modify fire behavior?

Research Questions

- How does the composition of post-harvest fuel loads change over time and effect fire behavior?
- How does decayed/decaying redwood/Douglas-fir interact with fire behavior?
- What are the decay rates for coast redwood and Douglas-fir?
- How do the fire models correlate with actual fire behavior?

Project Design

- Compared harvested stands to unentered 2nd growth stands
- Stand and fuel data (DBH, defects, canopy height, surface cover, and more) collected from harvested and unentered stands; all data was collected within 100 feet of the road

Preliminary Analysis

- Harvested stands had more sound 1000-Hour fuels with the unentered 2nd growth stands had more rotten 1000-Hour fuels
- Fuel bed depth was similar between the stand types
- Harvested stands had more redwood regeneration than the unentered 2nd growth stands
- Tan Oak appears to be the predominant regenerating species in unentered 2nd growth stands
- More grasses, forbs, and shrubs in the harvested stands; more slash observed in the unentered 2nd growth stands

Next Steps

- Decay sampling and processing, completion of data collection, analysis and modeling (Now – March 2025)
- Analysis and modeling, writing (April 2025-July 2026)

12. Future Meeting Locations, Dates, and Agenda Items

a) Next Meeting
- The next meeting will be February 12th in Sacramento.

b) Agenda Items
- This meeting will include discussion regarding the Strategic Plan and other completed CRAs.

13. Announcements: Scientific Conference, Symposiums, and Workshops

- The Range Management Advisory Committee has a meeting next Tuesday.

EFFECTIVENESS MONITORING COMMITTEE
P.O. Box 944246
SACRAMENTO, CA 94244-2460
Website: www.bof.fire.ca.gov
(916) 653-8007

- Co-Chair Coe is giving a presentation at CLFA tomorrow.
- Member Dr. Anderegg's Master's student is presenting their Master's Thesis Defense on the timing of prescribed burns next week.

14. Progress Report Presentation: EMC-2021-003: Evaluating the response of native bees to fuel-reduction treatments in managed conifer forests – Dr. James Rivers, *College of Forestry, Oregon State University*

Dr. Rivers presented: 14. Progress Report Presentation EMC-2021-003

Introduction

- Pollinators have an outsized impact on human food production and native biodiversity.
- There are four key pollinator groups in the western US: flies, moths/butterflies, beetles, bees
- Floral resources and nesting sites are key requirements for bee populations.
- Many knowledge gaps remain for forest pollinator research:
  - Data are lacking on the effects of forest management activities.
- Treatments to reduce fire risk are a management priority throughout western US forests.
- This study evaluates bee communities and their key resources within shaded fuel breaks.
  - Hypothesis: Larger and more diverse bee communities occur in shaded fuel breaks relative to reference sites.

Study Design

- Dry mixed conifer forests in the Cascades Ecoregion of northern CA
- Comparison of shaded fuel breaks to untreated reference sites
- 2 sampling rounds per year; netting and floral plots with blue vane traps in plots within 34 total sampling sites
  - Captured over 20,500 bees, flies and wasps across 2023 and 2024 field season
  - Bee identification is a slow process; 2023 field season data has only recently become available.

Project Timeline

- Data analysis and thesis writing should be in Spring/Summer 2025.
- Final report to EMC should be in Fall 2025.

15. Public Forum

There were no public comments.

16. Adjourn