

BOF Effectiveness Monitoring Committee Meeting Notes January 13, 2021

GoToMeeting Webinar

1. Participants (21):

Members--Sue Husari (Co-Chair), Loretta Moreno (Co-Chair), Sal Chinnici, Matt House, Dr. Leander Anderegg, Dr. Matt O'Connor, Dr. Peter Freer-Smith, Jim Burke, Bill Short, Clarence Hostler, Justin LaNier, Drew Coe, and Dr. Stacy Drury

Staff—Katie Harrell and Pete Cafferata

Participants—Jeanie Mascia, Richard Gienger, Tim Ryan, Michael Novack, Jessica Leonard, and Christopher Looney

2. Report by the Co-Chairs

a. Budget:

Sue Husari announced that the EMC is anticipating receiving its full \$425,000 annual funding for fiscal year 2021/2022. We have already committed \$154,472 for the Class II Large Effectiveness Study (EMC 2018-006), leaving \$270,528 available to fund new projects in the coming fiscal year. A Request for Proposals (RFP) will be prepared once the funding is finalized. Funding for fiscal year 2020/2021 is restricted to the amounts allocated to existing EMC projects. It is important for BOF/EMC staff to ensure that the PIs invoice for funds allocated to 2020/2021.

b. Project Updates:

--Loretta Moreno stated that Governor Newsom's proposed January budget has allocated approximately one billion dollars for forestry-related projects, including some funding for monitoring. Additional investigation of the proposed budget is needed to learn more about specific requirements. See the Forest Management Task Force's comprehensive California Wildfire and Forest Resilience Action Plan at: <https://fntf.fire.ca.gov/media/cjwfpckz/californiawildfireandforestresilienceactionplan.pdf>

--Loretta Moreno provided a brief update on the *AB 1492 Forest Ecosystem Monitoring and Assessment Initiative* and *AB 2551 Spatial Analysis and Priority Planning project*. The ~1 million dollar contract for this project with UC Merced, UC Berkeley, UC Davis, UCCE, and the Univ. of New Mexico will start this month, with a "kick-off" meeting to be held in February, allowing stakeholder input on proposed study metrics.

--Katie Harrell stated that Dr. Rob York's EMC-2017-006: Tradeoffs among Riparian Buffer Zones, Fire Hazard, and Species Composition in the Sierra Nevada project was significantly affected by COVID-19, and a contract amendment has been submitted to extend the project to June 30, 2022.

--Drew Coe announced that OSU PhD student Austin Wissler has analyzed the thermistor data for EMC-2015-001: Class II-Large Monitoring from Caspar Creek and LaTour Demonstration State Forest as the first part of his dissertation research. This portion of his research has been submitted for publication to *Hydrological Processes* in January 2021. This EMC project is now complete.

c. Other Updates:

Katie Harrell announced that Dr. Kristina Wolf has been hired as an Environmental Scientist by the BOF starting February 1, 2021, replacing Brandi Goss. She will be the lead staff for the EMC beginning in February.

3. Boggs Mountain Demonstration State Forest Runoff Simulation Study

Drew Coe summarized the published poster presented online at the Fall 2020 AGU meeting titled “Alternative methods for reducing sediment delivery from skid trails used for post-fire logging” (<https://agu2020fallmeeting-agu.ipostersessions.com/Default.aspx?s=15-2C-B1-95-67-78-2C-EC-DF-C1-C8-02-06-62-69-B2&pdfprint=true&guestvie%E2%80%A6>). This project is part EMC 2016-002: Post-fire effectiveness of the Forest Practice Rules in protecting water quality on Boggs Mountain Demonstration State Forest, funded by the State Water Resources Control Board’s 319(h) non-point source grant program using TRFR funds. This component of the study was included to develop and demonstrate alternative best management practices (BMPs) for post-fire salvage operations.

Rainfall simulation was used to test post-fire treatments on skid trails in an area that burned with high severity in the 2015 Valley Fire. Runoff experiments were conducted to compare changes in runoff and sediment outputs among five mitigation techniques. The treatments were:

- Control; standard waterbar spacing with the FPRs (100 feet with moderate EHR; 30-40% slopes).
- Double-drainage; waterbar spacing set to ½ the prescribed FPR spacing (50 feet).
- Slash-covered; skid trail covered with logging slash at a rate of 50%.
- Slash-packed waterbar outlets; outlets covered with logging slash (70%) and machine packed.
- Walked-in slash; both skid trail and waterbar outlet covered by slash (50% and 70%, respectively), and machine packed.

The experiment had a licensed timber operator make four round trips on each skid trail. There were six plots randomly assigned for each treatment. Plot test sections were ½ the distance between waterbars and the full skid trail width. The application rate for the runoff simulator was 28 mm/hr (1.1 in/hr) for 30 minutes, which corresponded to the runoff rate from rainfall simulations with an applied rainfall rate of 71 mm/hr (>100-year recurrence interval; Prats et al., 2021). Parameters measured included surface cover, surface roughness, runoff velocity (using a pulsed saline injection tracer), runoff rate, and sediment concentration.

Results to date include:

Cover: There was no difference in wood cover between the Control and Double-drainage plots or outlets. Plot wood cover was greater for the Slash-covered and Walked-in treatments, which included addition of wood on the skid trail surface. Outlet wood cover was greater for Slash-covered, Slash-packed, and Walked-in treatments.

Surface roughness: Surface roughness showed no differences in the plots. Roughness in the outlets was more variable within each treatment than in the plots, and none of the treatments appeared to affect surface roughness.

Runoff velocity: The plot runoff velocities were lower for the treatments where slash was added to the skid trails (Slash-covered and Walked-in). All treatments had lower runoff velocities in the outlets than the Controls, particularly where slash was added to the waterbar outlets.

Runoff rate: Runoff rates across all treatments were highly variable. Runoff rates in the Double-drainage treatment were lower than the Controls because of the higher frequency of waterbars and shorter plot lengths. Runoff rates in the Slash-covered and Walked-in treatments were lower than the Controls.

Sediment concentration: Sediment concentrations were similar at the plot sample location across treatments except for the Slash-covered, which was slightly lower. At the outlets, there was no difference in sediment concentration between the Controls and Double-drainage treatments, and the Slash-covered, Slash-packed, and Walked-in treatments had lower concentrations.

Sediment rating curves still need to be constructed to allow sediment yields to be calculated. Additional characterizations of hydraulic roughness and erosion may also be generated using structure for motion photogrammetry. The main conclusions to date from this study are that (1) reducing the distance between waterbars had little effect on sediment delivery, and (2) the addition of slash to waterbar outlets has a greater influence on sediment delivery than slash added to the skid trails. The value of slash packing the outlets of skid trails following salvage logging operations validates the existing FPRs, which state that *“Where waterbreaks cannot effectively disperse surface runoff, including where waterbreaks on roads and skid trail cause surface runoff to be concentrated on downslopes, roads or skid trails, other erosion controls shall be installed as needed...(914.6 [934.6, 954.6](f)).”* Since roads and skid trails share similar properties and similar rule requirements (e.g., 914.6, 934.6, 954.6), results from this study may also apply to elements of the “Road Rules”, specifically to elements of 923.5, 943.5, 963.5.

4. New EMC Nominee for the SWRCB Member

Katie Harrell stated that the SWRCB has nominated Jessica Leonard as their EMC member, replacing Cliff Harvey who retired from state service in December 2020. The BOF will vote on her appointment at their meeting on January 20th. Ms. Leonard is an Environmental Scientist, with a professional focus on watershed management and solutions to mitigate and adapt to climate change. She has worked for the SWRCB for three years in Sacramento, and holds a BS in biological sciences from UC Davis and a Masters in Environmental Studies from Antioch University.

5. Science to Policy Framework: Update on Narrative to Flowchart for the EMC Strategic Plan

Loretta Moreno led a discussion summarizing the narrative she wrote to describe the flowchart developed to provide a well-documented (formalized) process for how to transfer EMC funded research findings to the BOF. The goal is to add the final product to Appendix E in the EMC Strategic Plan. Significant points raised by the EMC included: (1) outputs are to go to the BOF, and they are not limited to the Forest Practice Committee; (2) the EMC should not “reject” project results, but rather forward them on to the BOF with a supplemental analysis of report findings to allow the BOF to make decisions on the use of the report and next steps; (3) provide facts to the BOF to enable their analysis of potential policy implications (4) reconfigure the flowchart and narrative after considering Washington’s CMER parallel steps; EMC should provide an easily understood narrative/synthesis for BOF members to give context to study results, and (5) the revised process should be beta tested with EMC 2015-001: Class II-Large Monitoring Study results.

Action items to be completed prior to the next EMC meeting:

- **Matt House will work with Loretta Moreno to use the CMER language discussed to develop a revised narrative bullet list and simplified flowchart that results in an easily understood, neutral project summary for the BOF.**
- **Drew Coe (working independently) will beta test the revised process with the monitoring results from EMC 2015-001: Class II-Large Monitoring Study.**
- **Kristina Wolf will distribute the products prior to the next EMC meeting.**

6. Follow-up Discussion for EMC Project Liaisons

Loretta Moreno led a discussion on the EMC project liaisons assigned to current EMC projects. The objective is to provide oversight for existing research projects to ensure that they deliver the products desired by the EMC. Currently BOF staff and CAL FIRE staff that are the contract administrators are serving in this role, checking in with the PIs on their progress and obtaining updates for the EMC, including updates for the annual report and workplan. The goal is to expand this task to EMC members, so that there is good communication with staff and the PI(s) on project status, with more emphasis on science, not just contract procedural requirements. There was discussion on whether direct supervisors should act as project liaisons (e.g., Bill Short for EMC 2019-005), and whether projects with several PIs can have EMC members that are included as PIs also be the project liaison (e.g., Matt House and Drew Coe for EMC-2018-006). It was decided that these situations are not problematic, and that the assignments provided for this meeting are appropriate.

Action Item: After February 1st, Katie Harrell will send an email message to the EMC project PIs. The email will introduce Kristina Wolf as the new environmental scientist staffing the EMC for the BOF, clarify the EMC liaison's role, and make the introduction of the EMC member assigned as liaison to the PI(s).

7. Priority Themes/Critical Questions for Priority Funding for Fiscal Year 2021/2022

Loretta Moreno and Sue Husari continued the discussion began at the October 2020 EMC meeting on priority themes for the 2021 request for proposals. This work will be useful for selecting new project proposals during the next funding cycle, identifying topics that require additional research. The normal project ranking procedure described in the EMC Strategic Plan will still be utilized, but the priority themes/critical questions that are selected will be layered over the top (specifics to be determined at the next EMC meeting).

Only four EMC members responded to the request for input made at the October 2020 meeting.

Action item: For EMC members that have not provided input, provide suggestions to Katie Harrell by February 1st. Provide critical questions in addition to larger themes.

8. Board of Forestry and Fire Protection Updated Research Plan

Katie Harrell updated the EMC on that status of the BOF's updated research plan. The Board is required to periodically inventory, assess, and report on the State's priorities for forest management research and to suggest needed projects. A survey to provide input on topics and issues the Board should prioritize was sent out broadly to BOF email lists, including the EMC, in December and closes on January 15, 2021. The survey is posted at: https://www.surveymonkey.com/r/BOF_Research_Priorities Currently more than 200 people have provided responses. Writing assignments for draft sections of the research plan have been made to a small CAL FIRE BOF Research Plan cadre.

Action item: EMC members that have not taken the survey are to do so by January 15th.

9. 2020 EMC Annual Report and Workplan Discussion

Katie Harrell and Sue Husari led a discussion and review of the draft EMC Annual Report and Workplan. The purpose of the annual report and workplan is to provide a short document that can be easily read by BOF members, updating them on major accomplishments and project status. Suggested edits from EMC members and staff were reviewed page by page and incorporated during the meeting. Drew Coe agreed to send Loretta Moreno project findings to be forthcoming in 2021, additional EMC-2016-002: Post-fire

effectiveness of the Forest Practice Rules in protecting water quality on BMDSF products, and a bullet point for EMC accomplishments related to EMC-2015-001 and EMC-2016-002. Sue Husari noted that the project updates included in the annual report and workplan are good reference material for EMC project liaisons to use.

Action item: Katie Harrell will make the suggested changes on January 13th and provide the document to BOF EO Matt Dias, so that the BOF will have the document for the January 20th BOF meeting.

10. Public Forum – None.

11. Discussion of Future Meeting Locations, Dates, and Agenda Items

The next meeting will be held online during the month of April. Katie Harrell or Kristina Wolf will send out a Doodle poll for the exact meeting date.

Potential agenda items include:

- Presentation on the thermistor data for EMC-2015-001: Class II-Large Monitoring from Caspar Creek and LaTour Demonstration State Forest.
- Presentation on the final report prepared by Dr. Andy Stubblefield, HSU, on the Railroad Gulch BMP Evaluation Study conducted in the Elk River watershed, Humboldt County.
- Update on EMC-2018-006: Class II-Large Study by OSU researchers Dr. Catalina Segura and Dr. Kevin Bladon, including a virtual field tour (video recording of field sites).
- EMC priorities for themes/critical questions, and how to review project proposals received after July 1st.

Sue Husari requested that EMC staff develop draft agendas for the next two EMC meetings (April and July), since there are several topics to include, exceeding the time available for the April meeting.

12. Announcements: Scientific Conferences, Symposiums, and Workshops

Loretta Moreno announced that the Second Annual Statewide Forest Science Research Coordination Meeting will be held for state and federal technical and scientific staff on January 26th (remotely). This meeting will allow researchers from some of the largest recently funded statewide forest science projects to share their scope of work, research plan, and major research updates with other major research grantees, and state and federal agencies, and to expand collaboration and the utility of deliverables within and between funded projects. Additionally, it will allow major data gaps to be identified. Contact Loretta if you are interested in attending.