

**BOF Effectiveness Monitoring Committee Meeting Notes
April 21, 2021**

GoToMeeting Webinar

1. Participants (23):

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

Staff—Dr. Kristina Wolf and Pete Cafferata

Participants—Richard Gienger, George Gentry, Will Olsen, Adrienne Gricius, Ben Waitman, Gretchen Woessner, Michael Esposito, and Bob Roth

2. Report by the Co-Chairs

a. **Budget:** Sue Husari announced that the EMC is confident that it will receive 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.

b. **Project Updates:**

--EMC-2018-003 Alternative Meadow Restoration: Matt O'Connor spoke with Dr. Chris Surfleet and he reported that due to extremely low winter precipitation, no meadow streamflow was recorded, greatly complicating determining treatment effects. Field work was able to continue during the pandemic.

--EMC-2016-003 Repeat LiDAR Surveys to Detect Landslides: Bill Short reported that he is still waiting for LiDAR delivery from the USGS.

--EMC-2019-005 San Vicente Accelerated Wood Recruitment: Bill Short stated that the watershed to be studied in Santa Cruz County burned in the CZU Lightning Complex and the Sempervirens Fund is not going to continue with the THP. RPF Nadia Hamey, however, is still planning to go forward with the project. CGS has installed monitoring equipment in the stream channels that is providing data. They have observed significant sediment delivery to the channels.

--EMC-2018-006 Class II Large WLPZ Effectiveness Study: Matt House announced that harvesting occurred in 2020, and 2021 post-harvest data are being collected. Green Diamond Resource Company staff have supplemented OSU staff, due to their field limitations related to the pandemic. Austin Wissler has scaled back his study to a master's project, but Drs. Bladon and Segura are pursuing a post-doc to continue the project. A detailed presentation and virtual field tour will be provided at the next meeting.

--EMC-2017-001 Caspar Creek Nutrient Study: Pete Cafferata reported that the pandemic has imposed major restrictions on lab access for cation/anion analysis on 1600 remaining water samples. Seanna McLaughlin's master's thesis is expected by June and a final report by the end of the calendar year.

Additional project updates:

--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*. This ~1 million dollar contract for assessing 7 million acres draining to Shasta, Oroville, and Trinity reservoirs with UC Merced, UC Berkeley, UC Davis, UCCE, and the Univ. of New Mexico will help prioritize locations for vegetation treatments. The first technical advisory meeting was held in February and a public "kick-off" meeting will take place in June or July. A fact sheet on the project is available.

--Drew Coe stated that the draft 2020 CAL FIRE Exemption Notice Report has been provided to the BOF, addressing 1038(c) Fire Hazard Reduction within 150 feet of Structures (see draft posted at: https://bof.fire.ca.gov/media/ib0ecns1/full-11-f-draft-2020-exemption_emergency-monitoring-report.pdf). In brief, the report states that the sampled 1038(c)s were effective in treating surface and ladder fuels, but not as effective in breaking up the horizontal continuity of crown fuels within 30 feet of permitted structures. 1038(c)(6) 150-300 foot Exemptions are being monitored in the spring of 2021, and Forest Fire Prevention Exemptions will be monitored this summer and fall.

c. **2020 EMC Annual Report and Workplan:** The document was approved by the Board and is posted at: <https://bof.fire.ca.gov/media/gjinn1q0/2020-emc-annual-report-and-workplan.pdf>

d. **Other Updates:** None

3. Science to Policy Framework: the Washington Approach

Loretta Moreno and Matt House summarized the document they wrote as an EMC cover memo to the BOF for completed EMC research projects. It is a proposed adaptation of Washington's CMER approach for use in California and replaces the previous flowchart diagram. Specifically, the memo includes five questions: (1) does the research fulfill requirements of funding, (2) is it scientifically sound, (3) is it scalable, (4) is more research needed, and (5) what are the scientific applications. The goal is to provide the Board with the main study conclusions, putting the results in proper context. Two EMC members will work together to write the cover letter, and it will be made available to the project proponent.

The cover memo document will be referenced in the Request for Proposals (RFP) to be sent out in July 2021, and it will be included in the next version of the EMC Strategic Plan. The BOF will be briefed on this document at either their May or June 2021 meeting. Additionally, item 1 (does the study inform a forest practice rule, numeric target, performance target, or resource objective) should be included in new grant language. EMC suggested edits were due to Kristina Wolf by April 28th.

4. Presentation on EMC-2015-001 Thermistor Class II-Large Monitoring Study, and Beta Test of Science to Policy Framework

Drew Coe provided a PowerPoint presentation on the longitudinal trends in stream temperature from work conducted in the Caspar Creek Experimental Watersheds and on LaTour Demonstration State Forest (contrasting lithologies). The slides were prepared by Austin Wissler, Dr. Catalina Segura, and Dr. Kevin Bladon, OSU. Data were collected in five Caspar watersheds and three LaTour basins in 2017 and 2018. Drainage areas ranged from 57 acres to 773 acres. Air and stream temperatures tracked much more closely for the coastal basins compared to the inland LaTour basins. Input of cold water springs decreased water temperature at entry points in the Cascade Range, providing cooling in a downstream direction, while four out of five Coast Ranges streams had a warming trend downstream. Spring inputs were found to lower the relationship between air and water temperatures. A manuscript submitted to Hydrological Processes was rejected; modifications will be made to the discussion section and the paper will be resubmitted this summer.

This study showed that not all streams meet the assumptions of uniform downstream warming utilized with the Class II-Large ASP rules. The general pattern of complex instead of assumed asymptotic downstream warming makes implications for the California Forest Practice Rules difficult. This

conclusion validates the concepts included in 916.9[936.9, 956.8](v), allowing RPFs to develop site-specific riparian zone measures where they are appropriate.

Adam Pate's earlier work conducting a regional assessment of parameters for determining Class II flow permanence and network connectivity was also briefly described (see Pate et al. 2020 at: <https://onlinelibrary.wiley.com/doi/full/10.1002/hyp.13889>). Approximately 100 streams were studied, with channel characteristics and surface water conditions measured in mostly ASP watersheds. The most important variable for connectivity was winter precipitation. Drainage area was found to be much more important than bankfull channel width, and width was found to work in the opposite direction than expected (decreased flow with wider channels). For connected streams, the rule requirement of 100 or 150 acres depending on forest practice district came reasonably close to the mid-values measured in this field study. The rule mandated drainage areas did not work as well for flow permanence, but they were still tracking appropriately (larger watersheds had more flow permanence). In general, this study provides evidence that channel width is not a good predictor for higher water temperatures being transmitted downstream, while drainage area is a good parameter for use in the CA Forest Practice Rules.

For the science to policy questions beta test, it was found that the study (1) did fulfill the funding requirements and informed a forest practice rule; (2) was scientifically sound (one published paper to date); (3) scalable: clear differences in warming patterns were documented in different lithologies, with complex patterns observed in the Cascade Range; a key limitation was that only temperature was studied, while the ASP rules were also developed to address the transport of sediment, large wood, and nutrients; (4) additional research needed: it is appropriate to determine findings from EMC-2018-006 prior to initiating new research; and (5) scientific application: our understanding of controls for perennial/connectivity flow for headwater streams in California has been substantially increased.

5. Discussion of Results of Feedback on EMC Priority Themes/Critical Questions for Priority Funding

Loretta Moreno led a discussion on the results received on feedback for EMC priority themes and critical questions. Preferred (emphasized) themes will be placed in the Request for Proposals (RFP) circulated in July 2021. The top 5 themes by vote tally (in order, see Table 1 in handouts) were:

- Theme 6: Wildfire Hazard
- Theme 11: Hardwood Values
- Theme 5: Fish Habitat
- Theme 7: Wildlife Habitat—Species and Nest Sites
- Theme 1: WLPZ Riparian Function (tie)
- Theme 8: Wildlife Habitat—Seral Stages (tie)

The top 5 critical questions by vote tally (in order, see Table 2 in handouts) were:

- Question 6c: Are the FPRs and associated regulations effective in managing fuel loads, vegetation patterns and fuel breaks for fire hazard reduction?
- Question 11a: Are the FPRs and associated regulations effective in retaining diverse forests with a mixture of tree species that includes hardwoods [14 California Code of Regulations (CCR) § 897 (b)(1)]?

- Question 6a: Are the FPRs and associated regulations effective in treating post-harvest slash and slash piles to modify fire behavior?
- Question 5b: Are the FPRs and associated regulations effective in maintaining and restoring the distribution of foraging, rearing and spawning habitat for anadromous salmonids?
- Question 8b: Are the FPRs and associated regulations effective in maintaining or increasing the amount and distribution of late succession forest stands for wildlife?

There was considerable discussion on how to best proceed using the EMC voting results. It was suggested that blending some of the top-rated issues could be used, including managing fuel loads for fire hazard reduction and wildlife species response. Ultimately it was decided to simply list the five highest ranked critical questions, and to supply a link to the document with the EMC vote tallies in a revised version of the RFP. **A new draft RFP is to be produced for the July EMC meeting, when it will be finalized.**

6. Request for Proposal (RFP) Development

Sue Husari stated that the draft RFP is largely the same as in the past, with only minor changes incorporated. As stated above, a revised version will include the top five critical (thematic) questions. The RFP includes funding language stating that \$270,528 is available for the coming fiscal year, and \$425,000 in each fiscal year 2022 and 2023. It also states that indirect costs may not exceed 20% of the total funding request. Kristina Wolf drafted a sentence to include in the RFP to clearly state that the EMC desires to fund multiple proposals: *The EMC strives to fund multiple research projects annually, for multiple years; therefore, given the annual funding caps the EMC is subject to, proposers are asked to factor this into their budget request if feasible.*

Initial project proposals will be due by September 1st, and full proposals will be due by November 15th. The EMC will review the full proposals and make funding recommendations at the December meeting. It is the intent of the EMC to develop a **grant program, rather than contracts, for the 2022–2023 fiscal year, and thereafter. New grant guidelines will be developed and submitted for review by grant staff this year. Contracts will still be utilized in the 2021–2022 fiscal year. Both the Science to Policy Framework document (now called the EMC Completed Research Assessment) and the EMC voting tally document are to be hyperlinked to the RFP.** EMC suggested edits were due to Kristina Wolf by April 28th.

7. Project Liaisons: Open Discussion of the Process and Progress on Projects

See project reports listed under Item 2b. above.

8. Public Forum: None

9. Future Meeting Locations, Dates, and Agenda Items

Kristina Wolf will send out a Doodle poll for possible meeting dates in July.

Possible meeting agenda items include:

- EMC-2018-006 Class II Large Effectiveness Study presentation and virtual field tour
- Finalize Request for Proposals document
- Railroad Gulch BMP Evaluation Study presentation—Dr. Andy Stubblefield, HSU

10. Announcements: Scientific Conferences, Symposiums, and Workshops

- Dr. Joe Wagenbrenner, USFS PSW Research Hydrologist, provided a presentation titled “Post-Fire Salvage Logging Effects on Soils, Runoff, and Sediment Production in Western Watersheds,” posted at: https://www.youtube.com/watch?v=MakVum6U_vE&list=PL-u4XN2GJZlgtKEmz0WxPWpwfUtchxvV_&index=3
The presentation was recorded on April 5, 2021, and was part of a series co-hosted by the Rocky Mountain Research Station, Northern Rockies Fire Science Network, Southern Rockies Fire Science Network, and the Northwest Fire Science Consortium.
- Dr. Kevin Bladon, OSU, provided a presentation titled “Wildfire and Post-Fire Management Effects on Water Resources,” posted at: https://www.youtube.com/watch?v=yI199ixy_Sl&list=PLvPofWzmi8889iiaMSPtzUD0VLqxyofz&index=29
The presentation was recorded on April 13, 2021, and it is part of the California Fire Science Seminar Series.