

Action Item Notes

Effectiveness Monitoring Committee Meeting

August 8, 2017

CAL FIRE Sacramento Headquarters Office Natural Resources Building, Sacramento

1. Participants (15): Dr. Russ Henly (Co-Chair), Sal Chinnici, Tom Engstrom, Matt House, Dr. Matt O'Connor, Clarence Hostler, Drew Coe, Bill Short, Justin LaNier, Matt Dias, Mandy Culpepper, David Fowler, Connor Pompa, George Gentry, and Pete Cafferata.

Webinar participant (1): Steve Baumgartner.

2. Report by the Co-Chair

- Russ Henly reported on the following topics:
 - New BOF member appointment—Chris Chase, Timber Products (industry member).
 - California Forest Carbon Plan—a final version is expected in 6 weeks.
 - A revised version of the ARB 2017 Climate Change Scoping Plan has been put on hold due to the approval of the new Cap and Trade Bill.
 - AB 1492 updates: (1) Natural Resources Agency is working on an update of Timber Regulation and Forest Restoration Fund actual expenditures, revenues, and year-end fund balance for the 2016-17 fiscal year that ended on June 30; (3) the second draft of the white paper being prepared by UC Berkeley for the Ecological Performance Measures Working Group has been received; (4) the Campbell Creek Pilot Project Working Group last met in Fort Bragg on May 23rd, and the three assessment approaches used for a small sub-watershed in the Campbell Creek planning watershed (THP review, rapid air photo assessment, and modeling) are being applied to the entire Smith Creek watershed located within the Campbell Creek planning watershed; and (5) LiDAR to compare and contrast with 10 m DEM is expected to be delivered by the end of the calendar year for approximately 1200 mi² in Mendocino counties.

3. Update on EMC Membership

- Matt House and Sal Chinnici were reappointed to the EMC by the Board of Forestry and Fire Protection (BOF).
- Greg Giusti, recently retired from University of California Cooperative Extension, has been appointed as a new member.
- Justin LaNier, Central Valley Regional Water Quality Control Board, has been appointed to replace René LeClerc.
- Mandy Culpepper has been nominated for the Department of Fish and Wildlife (DFW) position to replace Bill Condon (her nomination will be considered for approval by the BOF at its August meeting).

- Three positions currently remain open: State Water Resources Control Board (SWRCB) and 2 university positions (vacated by Drs. Erin Kelly and Kevin Boston). A request for academic position member applications remains posted on the BOF website: http://bofdata.fire.ca.gov/board_committees/effectiveness_monitoring_committee/_call_for_applicants/request_for_academic_applicants_may_2017_3_.pdf
- The EMC co-chair position remains unfilled.

4. Updates on Contracting for Projects Approved for EMC Funding

- **EMC-2015-001 (Class II-Large Monitoring):** Drew Coe reported that the CAL FIRE contract with Oregon State University (OSU) was approved by DGS on July 21st. Drew and Will Olsen assisted OSU professors Catalina Segura and Kevin Bladen with implementation of the first phase of the study during July. This watershed scale pilot project will document the downstream propagation of water temperature from Class II watercourses in contrasting geologies on Jackson Demonstration State Forest (JDSF) and LaTour Demonstration State Forest (LDSF). The second phase, a regional scale project to assess the effectiveness of rule criteria for identifying Class II watercourses susceptible to thermal loading, will be implemented during the summer of 2018.
- **EMC-2015-002 (FORPRIEM ver. 2.0.) and EMC-2015-004 (Effectiveness of Road Rules in Reducing Hydrologic Connectivity and Significant Sediment Discharge)—Statistical Consultation:** Pete Cafferata stated that the contract with the US Forest Service Pacific Northwest Research Station (PNW) for \$55,834.86 was approved on June 22nd. PNW Statistician Pat Cunningham anticipates starting work on the project in one to two weeks. He will begin by reviewing materials supplied in the past and determining what additional information is needed to develop sampling plans and suggestions for analyzing the results.
- **EMC-2017-001 (UC Davis Caspar Creek Nutrient Study):** Pete Cafferata reported that the CAL FIRE contract with University of California, Davis (UCD) was approved on June 13th. Dr. Helen Dahlke, UCD, has a graduate student starting in October for the project. Currently they are analyzing the water samples that have been collected prior to harvesting in the South Fork sub-watersheds.
- **EMC-2017-002 (Boggs Mountain Demonstration State Forest (BMDSF) Post-Fire Automated Bird Recorders Study):** Drew Coe and Matt Dias reported for Stacy Stanish that (1) the first year of sampling has been completed, and (2) a service contract (<\$5000) will be submitted shortly to hire a person to listen and interpret the recorded tapes, and report on the detections.
- **EMC-2016-002 (BMDSF Post-Fire Runoff and Erosion Study):** Drew Coe stated that the CAL FIRE contract with the Pacific Southwest Research Station (PSW) utilizing SWRCB grant funds for the BMDSF post-fire runoff and erosion study will be approved by DGS in less than 10 days. Ryan Cole, OSU graduate student working on the project, has submitted study abstracts to the American Geophysical Union and the Geological Society of America. Results to date show less sediment generated from the salvage logged plots compared to the control plots. Will Olsen, CAL FIRE, is conducting a BMP study examining the effectiveness of waterbars constructed in salvage logged areas on BMDSF. Bill Short stated that California Geological Survey (CGS) staff is mapping BMDSF geology using LiDAR data.

5. Review of a Detailed Study Plan Addressing Methods to be used to Document Soil Disturbance, and Sediment and Organic Debris Delivery for EMC-2017-001 (UC Davis Caspar Creek Nutrient Study)

- Pete Cafferata reviewed the changes to the brief study plan requested by the EMC at the April meeting to address concerns regarding the UC Davis “Effects of Stand Density Reduction on

Nutrient Cycling and Nutrient Transport at the Caspar Creek Experimental Watersheds” study (EMC-2017-001).

- The plan specifies rapid mapping of sediment “hotspots” (areas >100 ft² of bare soil in the WLPZ), fine and coarse organic debris (>1 yd²) and sediment (>1 yd³) deposited in or near stream channels, and yarding boundaries with research grade GPS mapping, as well as PSW annual erosion surveys (detailed field procedure provided by PSW Hydrologist Liz Keppeler). It also specifies using NRCS website information to document soil type differences.
- **The EMC requested the following be added to the study plan:**
 - Make WLPZ width measurements where appropriate.
 - Conduct field examinations for soil disturbance, and sediment and organic debris deposition in the control sub-watershed (WIL) prior to October.
 - Use research grade GPS for locations of soil disturbance, sediment and organic debris depositions—but use traditional field measurement techniques to document the size of these disturbances/inputs (or do both and test accuracies with GPS).
 - Document when these measurements will be made (e.g., after logging before fall storms, after significant wind storms affecting WLPZ trees, etc.).
- **Pete Cafferata agreed to make these changes to the study plan.**

6. Review of Draft EMC Products and Funding Proposals

EMC-2016-003: Effectiveness of the Forest Practice Rules for Unstable Areas

- Matt O’Connor reported that he has not been able to spend much time refining the detailed project proposal for this project. He stated that he is expecting to learn a lot from the Caspar Creek and Campbell Creek Pilot Project work that can be applied to this EMC project. Matt also informed the EMC that he is discussing using private LiDAR with landowners in the Coast Ranges in areas that will soon have new LiDAR data available.
- Bill Short announced that CGS staff have been examining potential inland areas for a pilot study to evaluate multiple sets of LiDAR as a landslide detection tool. These areas are:
 - 2012 Bagley Fire area in Shasta County (78 mi², 70% USFS, 30% private)—LiDAR flown for the USFS in 2013.
 - Eldorado County along the Hwy 50 corridor (includes parts of the 1992 Cleveland Fire, 2004 Fred’s Fire, and 2014 King Fire); LiDAR flown for USFS in 2015.
 - Amador County (partly burned by the 2004 Power Fire); LiDAR flown for USFS in 2015.
 - The Eldorado and Amador sites are approximately 100 mi² and 60% USFS, 40% private.
 - The cost for a second LiDAR flight for all three areas (178 mi²) is expected to be approximately \$90,000 (\$500/mi²).
- The other pilot study area is the Caspar Creek watershed, where it will be possible to compare and contrast 2004 LiDAR and 2017 LiDAR landslide geomorphology within the South Fork and North Fork Caspar Creek watersheds, identifying landslides that occurred in between the two sets of LiDAR. This work is building off of Dave Longstreth’s (CGS) South Fork Caspar Creek Landslide Study, part of the 10 sub-studies included in the Caspar Creek Third Experiment.
- Subcommittee staff assistance is being provided by Dave Longstreth, Dave Fowler, Mike Fuller, and Ronna Bowers. EMC members on the sub-committee are Matt O’Connor and Drew Coe.

- **The EMC unstable area subcommittee will work on a project proposal prior to the next EMC meeting.**

EMC-2017-003: Intensive Road Effectiveness Monitoring for the Third Experiment at Caspar Creek

- Drew Coe provided a summary of the detailed proposal he developed for this project. It builds on a contract CAL FIRE will have in place within 10 days with Cal Poly's Dr. Chris Surfleet to fund a study titled "*Evaluation of Hydrologic and Water Quality Changes Associated with Differing Silvicultural Treatments, Road Practices, and Riparian Buffer Strip Design Implemented under the California Forest Practice Rules using the Distributed Hydrology Soil Vegetation Model (DHSVM) at the Caspar Creek Experimental Watersheds* (\$96,257).
- Dr. Surfleet wants to collect road sediment data that can be coupled with DHSVM modeling. This study would support DHSVM simulations and improve model performance. DHSVM modeling combined with road storm sediment relationships will quantify surface erosion at road discharge points.
- Using a nested sampling approach in this heavily instrumented watershed can provide a link between discharge and sediment concentration from road segments and water quality conditions in the downstream direction. The nested biological portion of the third experiment (i.e. benthic macroinvertebrate (BMI) and fish monitoring) can provide information about possible beneficial use impairment, allowing the EMC the potential to explicitly link road performance to water quality requirements.
- This project would complement EMC-2015-004 (Road Rules--Effectiveness of reducing hydrologic disconnection and road surface erosion), which is a broad, regional scale assessment of road hydrologic connectivity and erosion potential before-and-after road rule implementation to assess the effectiveness in achieving rule-mandated hydrologic disconnection and reduction of significant sediment discharges.
- A pilot project is proposed for the winter of 2017/18 to define a more precise methodology. The options for road sediment data collection include (1) grab samples at outlet of road flumes, (2) grab samples above and below watercourse crossings, (3) utilizing a catchment device in conjunction with the road flume (e.g. silt fence, silt sock, other), or (4) pumping sampler at a flume with TTS. The selected method(s) will be implemented more broadly during the winter of 2018/19 in the South Fork. This study would build on results from the pilot project
- Staffing for field data collection is the main limiting factor for this study. Funding for a CAL FIRE Forestry Aide (13 months at \$4,000/month with benefits) is proposed in the detailed project proposal, as well as for field sampling equipment (\$20,000), for a total of \$72,000.
- **The EMC expressed considerable support for the project, particularly since it would quantitatively address significant sediment discharges, as per the Forest Practice Rules.**
- **Questions remain about Forestry Aide supervision on JDSF and vehicle access during the wet season; Drew Coe will discuss these topics with JDSF senior staff.**
- **The references in the project proposal will be circulated to the EMC email list.**
- **A final project proposal and funding request will be provided to the EMC for the September meeting.**

7. Additional EMC Project and Funding Topics

Co-Chair Henly asked EMC staff to determine if unencumbered EMC funding for fiscal year 2016 (total of \$425,000) can be spent in fiscal year 2017. Also Dr. Henly asked EMC staff to send out the next twice-yearly EMC request for proposals, asking for 1-2 page project concept proposals. The goal is to have project proposals submitted from outside entities this fiscal year; ideas on how to accomplish this should be submitted to Russ and Matt Dias.

8. Annual EMC Strategic Plan Review

Russ Henly led a discussion on assignments for the annual updating of the EMC Strategic Plan. Key decisions made included:

- Update the photo(s) on the cover to show actual EMC project data collection. **Staff will do this.**
- Executive summary—include both ongoing and new projects in Table 1, but shorten the summaries. Also, add columns for study partners and dollar amounts encumbered in FY 2016-17. Update summary of activities and progress. **Staff and Chair .**
- Update Introduction (1.0). **Chair and staff.**
- Update membership discussion (1.2.1). **Staff.**
- Update EMC Personnel and funding (1.4). **Chair and staff.**
- Update BOF priorities (2.1.1). **Board Executive Officer (EO).**
- Cumulative Effects (2.1.2). Update, draw attention to the past and new work on Caspar Creek—e.g., a “box/case study” insert. Reconsider location of this section. **Board EO and CAL FIRE.**
- Each agency is to update their priorities (2.1.3 to 2.1.7). **Agency leads.**
- Determine where to discuss Exemption and Emergency Operations (EX/EM) monitoring (per AB 1958, 2029, and budget trailer bill direction) in the document and include a description of the Phase I (implementation) and Phase II (effectiveness) monitoring work being planned. Briefly discuss work already done to monitor/evaluate EMs and EXs, why it’s important (scale of acres treated, less analysis and interagency review), stress the interagency collaboration occurring to develop and implement the monitoring and evaluation. (Also include a brief summary in the executive summary). **Eric Huff (CAL FIRE) will be asked to write the section.**
- Update Ecological Performance (2.2). **Russ Henly.**
- Themes (2.3)—determine if additional themes should be added, along with new critical questions. Also, determine if theme priorities need reevaluation. **Homework assignment for all participants, including public.**
 - Wildlife projects are needed—**EMC members are encouraged to actively solicit projects with outside researchers (possible Ecoregional Biodiversity Monitoring project to be investigated).**
- Figure 4—redo with an actual EMC project. **Staff.**
- Catalog of ongoing cooperative and individual monitoring projects (2.4 and Appendix G)—update. **Staff in lead; input requested from all EMC participants, including public.**
- EMC supported monitoring projects (2.5)—update 2015-2017 projects and current status. **Staff.**
- Adaptive management framework (3.0)—review and provide feedback. **Input requested from all EMC participants, including public.**

- Appropriate scientific methods (4.0)—Review and provide feedback. **Input requested from all EMC participants, including public.**
- Resource benefit (4.2.4): Proposal submitters and staff should attempt to do a better job of incorporating this information in project proposals.
- Appendix A— members and staff table. **Staff .**
- Appendix B— add AB 1492 diagram showing conceptual hierarchy of monitoring and assessment. **Russ Henly to provide to staff**
- Appendix C—No changes anticipated.
- Appendix D— put header on each page.**Staff .**
- Appendix G— put header on each page. **Staff.**
- Appendix E—update summary of current projects (include “withdrawn” and “not completed” categories). **Staff .**
- Appendix F—update table for projects ranked; add column for when it was ranked. **Staff.**
- Appendix G—update catalog of ongoing cooperative and individual projects, add EX/EM monitoring. **Staff in lead; input requested from all EMC participants, including public. .**
- Appendix H— modify to address EX/EM monitoring. **Staff.**

Further discussion and review of progress on updates to the Strategic Plan will occur at the September EMC meeting.

7. Public Forum – No public comments.

8. Future EMC Meeting Dates

- The next meeting will be in Fort Bragg on September 21-22, including a field tour of the Caspar Creek watershed on September 21st.

9. Announcements

- The CLFA fall workshop on water topics is scheduled for September 8th in Chico. (See <http://www.clfa.org/documents/workshops/Water-Issues-Brochure.pdf>)
- The SAF summer meeting is scheduled for August 25th and 26th in Anderson. The topic is “value-added forestry,” focusing on the latest technology in wood products. (See <http://norcalsaf.org/2017/07/18/2017-california-saf-summer-meeting-value-added-forestry/>)
- The California Forest Soils Council summer field tour is scheduled for September 7-9 at Swanton Pacific Ranch (See <http://www.caforestsoils.org/>).