

**Project Number:** EMC-2016-002  
**Project Name:** Post-fire effectiveness of the Forest Practice Rules in protecting water quality on Boggs Mountain Demonstration State Forest

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**Background and Justification:**

Forest managers are increasingly faced with the task of recovering the value of burned timber while providing for water quality protection. Very little information is available regarding the impacts of post-fire management practices, particularly in California. Recent studies in other areas in the western U.S. have indicated that post-fire forest management may increase local surface runoff and erosion rates because of soil compaction, surface disturbance, and delay of vegetative recovery related to heavy equipment traffic. By assessing soil erosion and water quality responses to post-fire management treatments, we can provide managers with tools to help mitigate potential water quality impacts. This project will quantify the responses of runoff and sediment production to wildfire and post-fire logging and reforestation activities, as well as evaluate and demonstrate new BMPs for post-fire logging.

**Objective(s) and Scope:**

This study will use established methods, when possible, to measure the effects of post-fire salvage logging and post-salvage site preparation techniques on runoff, erosion, carbon flux rates, and vegetative recovery on the Boggs Mountain Demonstration State Forest, which was burned during the 2015 Valley Fire. There are two main objectives to this project:

1. Determine the effects of post-fire logging and site preparation on runoff, erosion, soil carbon, and vegetation recovery.
2. Develop and demonstrate alternative BMPs for post-fire salvage operations.

**FPRs and Regulations:** 14 CCR § 913 (933, 953), 14 CCR § 914.2 [934.2, 954.2](a), 14 CCR § 915[935, 955]

**EMC Critical Question or Priority:** What extent are management practices under the FPRs generating excess sediment and delivering to watercourse channels in a post-fire setting? Are the FPRs effective in protecting water quality with respect to silvicultural herbicide application and post-treatment ground cover?

**Collaborators:** CAL FIRE, CGS, CVRWQCB, Michigan Technological University (Dr. Joe Wagenbrenner)

**Existing or Needed Funding:** CAL FIRE has submitted a formal grant proposal to the State Water Quality Control Board's Nonpoint Source Grant Program – Timber Regulation and Forest Restoration Fund.

**Timeline and Fiscal Year (s):** Estimated minimum three years

**Principal Investigator or Contact:** Drew Coe, CAL FIRE

*Submitted by Drew Coe, 02/19/16*