EMC Research Projects, Research Themes, and Critical Monitoring Questions Matrix

The following tables crosswalks the 12 Research Themes and related Critical Monitoring Questions (CMQs) to all Effectiveness Monitoring Committee (EMC) supported Project IDs, including past CMQs, outside the current set of CMQs, where applicable. Please see the EMC webpage (https://bof.fire.ca.gov/board-committees/effectiveness-monitoring-committee/) for the most recent Research Themes and CMQs as updated in February 2026. See the EMC Document Archives for archived EMC Research Themes and CMQs, and for past versions of this matrix.

The CMQs identified as being addressed by a particular EMC-supported project are not necessarily the only research questions addressed by that study. Past EMC-supported projects may have addressed a CMQ developed after the proposal or completion of that project, and as such, may not have been identified as related to that particular question. Moreover, the CMQs indicated as applying to a particular project were identified by the project applicants, and other CMQs or related regulations may also apply to the project. See the EMC webpage (https://bof.fire.ca.gov/board-committees/effectiveness-monitoring-committee/) for a table of all EMC-supported projects, along with links to Project Proposals and Deliverables.

* Questions highlighted in **light green bold font** have not been identified as having been directly or officially addressed by any EMC-supported research projects.
* Questions highlighted in *blue with italic font* have been prioritized in the most recent EMC Request for Proposals.

Theme 1: Watercourse and Lake Protection Zone (WLPZ) Riparian Function

Are the FPRs and associated regulations effective in …

Critical Monitoring Question	Project ID 1	Project ID 2	Project ID 3	Project ID 4	Project ID 5
(a) maintaining and restoring canopy closure?	2015-002	2017-006	2018-006	2023-002	
(b) maintaining and restoring stream water temperature?	2018-003	2018-006	2023-002		
(c) retaining predominant conifers in WLPZs and large woody debris input to watercourse channels?	2015-002	2017-006	2018-006	2019-005	2023-002
(d) retaining conifer and deciduous species to maintain or restore riparian shade, water temperature, and primary productivity?	2015-002	2016-003	2016-002	2023-002	
(e) maintaining and restoring input of organic matter to maintain or restore primary productivity as measured by macroinvertebrate assemblages?	2016-003	2017-001	2016-002	2023-002	

Critical Monitoring Question	Project ID 1	Project ID 2	Project ID 3	Project ID 4	Project ID 5
(f) maintaining and restoring riparian function of Class II-L watercourses in the Coast District?	2015-002	2018-006			
(g) maintaining and restoring riparian function of Class II-L watercourses in the Northern District?	2015-002				
(h) managing WLPZs to reduce or minimize potential fire behavior and rate of spread	2017-006	2023-002			
(i) filtering sediment that reaches WLPZs?	2015-002	2018-003			

Theme 2: Watercourse Channel Sediment

Are the FPRs and associated regulations effective in minimizing management-related sediment delivery from forest management activities to watercourse channels …

Critical Monitoring Question	Project ID 1	Project ID 2	Project ID 3	Project ID 4	Project ID 5
(a) at the watershed and sub-watershed level in managed watersheds?	2016-002	2016-003	2016-002	2017-003	
(b) for individual Plans at the project level?	2015-002	2016-002	2016-002	2017-003	2019-005

Theme 3: Road and WLPZ Sediment

Are the FPRs and associated regulations effective in …

Critical Monitoring Question	Project ID 1	Project ID 2	Project ID 3	Project ID 4
(a) reducing or minimizing management-related generation of sediment and delivery to watercourse channels?	2015-002	2014-004	2015-004	
(b) reducing generation and sediment delivery to watercourse channels when timber operations implement the Road Rules 2013 measures?	2015-002	2014-004	2015-004	
(c) reducing the effects of large storms on landslides as related to roads, watercourse crossings, and landings?	2015-002	2014-004	2015-004	
(d) maintaining or improving fish passage through watercourse crossing structures?	2016-003			

Theme 4: Mass Wasting Sediment

Are the FPRs and associated regulations effective in minimizing sediment delivery to maintain water quality from …

Critical Monitoring Question	Project ID 1	Project ID 2	Project ID 3
(a) existing chronic unstable geologic features?	2016-003	2019-005	
(b) mass wasting during episodic stochastic events and/or large storms?	2015-002	2016-003	2019-005
(c) mass wasting from high-risk geologic features?	2016-003		

Theme 5: Fish Habitat

Are FPRs and associated regulations effective in …

Critical Monitoring Question	Project ID 1	Project ID 2	Project ID 3	Project ID 4
(a) maintaining and restoring the distribution of foraging, rearing, and spawning habitat for anadromous salmonids?	2016-003	2015-001	2019-005	

Theme 6: Wildfire Hazard

Are the FPRs and associated regulations effective in …

Critical Monitoring Question	Project ID 1	Project ID 2	Project ID 3	Project ID 4	Project ID 5	Project ID 6	Project ID 7	Project ID 8	Project ID 9
(a) treating post-harvest slash and slash piles to modify fire behavior?			2019-002		2022-003	2022-005	2023-003	2024-001	2025-005
(b) treating post-harvest slash and retaining wildlife habitat structures, including snags and large woody debris?	2017-007	2016-002	2019-002	2021-003	2022-003		2023-003	2024-001	
(c) managing fuel loads, vegetation patterns, and fuel breaks for fire hazard reduction?	2017-007	2017-008	2019-002	2021-003	2022-003	2022-005	2023-003	2024-001	
(d) managing forest structure and stocking standards to promote wildfire resilience?	2022-004	2023-002	2023-003					2024-001	2025-005
(e) achieving post-fire recovery	2023-002								

Critical Monitoring Question	Project ID 1	Project ID 2	Project ID 3	Project ID 4	Project ID 5	Project ID 6	Project ID 7	Project ID 8	Project ID 9
and restoration?									
(f) mitigating or reducing the cumulative impacts of post-fire recovery and management actions in affected watersheds?	2023-002								
(g) maintaining timberland productivity, including wood quality and sustained yield after wildfire?									2025-005

Theme 7: Wildlife Habitat: Species and Nest Sites

Are the FPRs and associated regulations effective in protection of nest sites …

Critical Monitoring Question	Project ID 1	Project ID 2	Project ID 3
(a) following general protection measures in 14 CCR § 919.2 [939.2, 959.2](b)?	2018-012	2022-003	2024-004
(b) following species specific habitat and disturbance measures in 14 CCR § 919.3 [939.3, 959.3]?	2018-012	2022-003	2024-004

Are the FPRs and associated regulations effective for the northern spotted owl in …

Critical Monitoring Question	Project ID 1	Project ID 2
(a) ensuring take avoidance following 14 CCR § 919.9 [939.9] and 14 CCR § 919.10 [939.10]?		
(b) ensuring take avoidance following 14 CCR § 919.9 [939.9](g)?		
(c) maintaining adequate amounts of suitable habitat to protect and conserve owls?		

Theme 8: Wildlife Habitat: Seral Stages

Are the FPRs and associated regulations effective in …

Critical Monitoring Question	Project ID 1	Project ID 2	Project ID 3
(a) retaining and recruiting late and diverse seral stage habitat components in WLPZs for wildlife?	2018-012	2022-003	
(b) maintaining or increasing the amount and distribution of late succession forest stands	2018-012	2022-003	

for wildlife?			
(c) maintaining or recruiting adequate amounts of early- and mid-seral habitats?	2018-012	2022-003	

Theme 9: Wildlife Habitat: Cumulative Impacts

Are the FPRs and associated regulations effective in …

Critical Monitoring Question	Project ID 1	Project ID 2	Project ID 3	Project ID 4	Project ID 5	Project ID 6
(a) protecting wildlife habitat and associated ecological processes?	2021-003			2024-001	2024-004	
(b) avoiding significant adverse impacts to wildlife species?	2017-002	2017-008	2021-003	2024-001	2024-004	
(c) protecting rare, threatened, or endangered plants?					2024-004	

Theme 10: Wildlife Habitat: Structures

Is Variable Retention silviculture effective in meeting …

Critical Monitoring Question	Project ID 1	Project ID 2
(a) ecological objectives including co-benefits?	2017-002	2018-012
(b) social objectives?		
(c) geomorphic objectives?		

Are the FPRs and associated regulations effective in retaining …

Critical Monitoring Question	Project ID 1	Project ID 2	Project ID 3	Project ID 4
(a) a mix of stages of snag development that maintain properly functioning levels of wildlife habitat?	2017-002	2017-007	2022-003	2024-001
(b) native oaks where required to maintain wildlife habitat (14 CCR § 959.15)?				

Theme 11: Hardwood Values

Are the FPRs and associated regulations effective in retaining…

Critical Monitoring Question	Project ID 1	Project ID 2
(a) diverse forests with a mixture of tree species that includes hardwoods (14 CCR § 897 (b)(1))?		
(b) native oaks where required to maintain wildlife habitat (14 CCR § 959.15)?		

(c) aspen stands (14 CCR § 913.4 [933.4, 953.4] (e))?		
(d) California black oak (Quercus kelloggii) and Oregon white oak (Quercus garryana) woodlands (14 CCR § 913.4 [933.4, 953.4] (f); § 1038 (l)?		

Theme 12: Resilience to Disturbances in a Changing Climate

Are the FPRs and associated regulations effective in…

Critical Monitoring Question	Project ID 1	Project ID 2	Project ID 3	Project ID 4
a) Improving overall forest wildfire resilience and the ability of forests to respond to climate change (e.g., in response to drought or bark beetle; reducing plant water stress) and variability, and extreme weather events (evaluate ecosystem functional response to fuel reduction and forest health treatments)?	2022-004	2023-003	2023-002	
(b) maintaining conifer and broadleaf stands which are well adapted to climate in order facilitate riparian functions (e.g., shade, temperatures, primary productivity, stream flow)?	2023-002			
(c) meeting ecological objectives and adaptation to future climate (e.g., resilience of wildlife habitats; variable retention silviculture as it relates to wildlife habitat structures)?	2022-004	2023-002		
(d) maintaining or recruiting adequate amounts of early- and mid-seral wildlife habitats which are well adapted to future climate?	2023-002			