

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

The following tables cross-walks the 11 Research Themes and related Critical Monitoring Questions (CMQs), where to all Effectiveness Monitoring Committee (EMC) supported projects, including past CMQs, outside the current set of CMQs, where applicable. Please see the EMC website (<https://bof.fire.ca.gov/board-committees/effectiveness-monitoring-committee/>) for all past and current sets of EMC Research Themes and CMQs. Questions highlighted in **light green bold, italic font** have not been directly or officially addressed by any EMC-supported research projects.

Theme 1: WLPZ Riparian Function

- ***Are the FPRs and associated regulations effective in ...***

Critical Question	Study 1	Study 2	Study 3	Study 4
(a) maintaining and restoring canopy closure?	EMC-2015-002	EMC-2017-006	EMC-2018-006	
(b) maintaining and restoring stream water temperature?	EMC-2018-003	EMC-2018-006		
(c) retaining predominant conifers in WLPZs and large woody debris input to watercourse channels?	EMC-2015-002	EMC-2017-006	EMC-2018-006	EMC-2019-005
(d) retaining conifer and deciduous species to maintain or restore riparian shade, water temperature, and primary productivity?	EMC-2015-002	EMC-2016-003	EMC-2016-002	
(e) maintaining and restoring input of organic matter to maintain or restore primary productivity as measured by macroinvertebrate assemblages?	EMC-2016-003	EMC-2017-001	EMC-2016-002	
(f) maintaining and restoring riparian function of Class II-L watercourses in the Coast District?	EMC-2015-002	EMC-2018-006		
(g) maintaining and restoring riparian function of Class II-L watercourses in the Northern District?	EMC-2015-002			
(h) managing WLPZs to reduce or minimize potential fire behavior and rate of spread	EMC-2017-006			
(i) filtering sediment that reaches WLPZs?	EMC-2015-002	EMC-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 Question	Study 1	Study 2	Study 3	Study 4	Study 5
(a) at the watershed and sub-watershed level in managed watersheds?	EMC-2016-002	EMC-2016-003	EMC-2016-002	EMC-2017-003	
(b) for individual Plans at the project level to evaluate channel response to forest management prescriptions and additional mitigation measures?	EMC-2015-002	EMC-2016-002	EMC-2016-002	EMC-2017-003	EMC-2019-005

Theme 3: Road and WLPZ Sediment

- *Are the FPRs and associated regulations effective in ...*

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

Theme 4: Mass Wasting Sediment

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

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

Theme 5: Fish Habitat

- *Are FPRs and associated regulations effective in ...*

Critical Question	Study 1	Study 2	Study 3
<i>(a) describing and mapping the distribution of foraging, rearing and spawning habitat for anadromous salmonids?</i>			
(b) maintaining and restoring the distribution of foraging, rearing and spawning habitat for anadromous salmonids?	EMC-2016-003	EMC-2015-001	EMC-2019-005

Theme 6: Wildfire Hazard

- *Are the FPRs and associated regulations effective in ...*

Critical Question	Study 1	Study 2	Study 3	Study 4
(a) treating post-harvest slash and slash piles to modify fire behavior?			EMC-2019-002	
(b) treating post-harvest slash and retaining wildlife habitat structures, including snags and large woody debris?	EMC-2017-007	EMC-2016-002	EMC-2019-002	EMC-2021-003

(c) managing fuel loads, vegetation patterns and fuel breaks for fire hazard reduction?	EMC-2017-007	EMC-2017-008	EMC-2019-002	EMC-2021-003
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Theme 7: Wildlife Habitat: Species and Nest Sites

- *Are the FPRs and associated regulations effective in protection of nest sites ...*

Critical Question	Study 1	Study 2
(a) following general protection measures in 14 CCR § 919.2 [939.2, 959.2](b)?	EMC-2018-012	
(b) following species specific habitat and disturbance measures in 14 CCR § 919.3 [939.3, 959.3]?	EMC-2018-012	

- *Are the FPRs and associated regulations effective for the northern spotted owl in ...*

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

Theme 8: Wildlife Habitat: Seral Stages

- *Are the FPRs and associated regulations effective in ...*

Critical Question	Study 1	Study 2
(a) retaining and recruiting late and diverse seral stage habitat components in WLPZs for wildlife?	EMC-2018-012	
(b) maintaining or increasing the amount and distribution of late succession forest stands for wildlife?	EMC-2018-012	
(c) maintaining or recruiting adequate amounts of early- and mid-seral habitats?	EMC-2018-012	

Theme 9: Wildlife Habitat: Cumulative Impacts

- *Are the FPRs and associated regulations effective in ...*

Critical Question	Study 1	Study 2	Study 3
(a) characterizing and describing terrestrial wildlife habitat and ecological processes?			EMC-2021-003
(b) avoiding significant adverse impacts to terrestrial wildlife species?	EMC-2017-002	EMC-2017-008	EMC-2021-003

Theme 10: Wildlife Habitat: Structures

- *Is Variable Retention silviculture effective in meeting ...*

Critical Question	Study 1	Study 2
(a) ecological objectives including co-benefits?	EMC-2017-002	EMC-2018-012

<i>(b) social objectives?</i>		
<i>(c) geomorphic objectives?</i>		

• **Are the FPRs and associated regulations effective in retaining ...**

Critical Question	Study 1	Study 2
(a) a mix of stages of snag development that maintain properly functioning levels of wildlife habitat?	EMC-2017-002	EMC-2017-007
<i>(b) native oaks where required to maintain wildlife habitat (14 CCR § 959.15)?</i>		

Theme 11: Hardwood Values

• **Are the FPRs and associated regulations effective in retaining...**

Critical Question	Study 1	Study 2
<i>(a) diverse forests with a mixture of tree species that includes hardwoods (14 CCR § 897 (b)(1))?</i>		
<i>(b) native oaks where required to maintain wildlife habitat (14 CCR § 959.15)?</i>		
<i>(c) aspen stands (14 CCR § 913.4 [933.4, 953.4] (e))?</i>		
<i>(d) California black oak (Quercus kelloggii) and Oregon white oak (Quercus garryana) woodlands (14 CCR § 913.4 [933.4, 953.4] (f); § 1038 (l))?</i>		