

**Forest Practice Committee
July 2024**

**Concepts to Further Draft Rule Change Language for Vegetation and Fuels
in the Watercourse and Lake Protection Zone**

Staff from the California Natural Resources Agency, California Department of Fish and Wildlife, the Water Boards and California Geological Survey provide input in support of the Board of Forestry's (BOF) Forest Practice Committee (FPC) effort to draft revised regulations to reduce high-severity wildfire risk in the Watercourse and Lake Zones (WLPZ) of California. Key to this effort is to address industry operational needs while upholding protective standards in these sensitive ecological zones. In the June 2024 FPC meeting, staff from the above-mentioned agencies offered to develop consolidated tables identifying existing and proposed rule change metrics to help enable comparisons and aid in holistic discussion.

Additional Context:

- A. In the past year, FPC co-chairs, BOF staff, agency representatives, and the public have iteratively drafted rule change language to address wildfire risk reduction activities affecting non-anadromous salmonid protection (ASP) watersheds throughout California's WLPZ. The focus has been to make effective fuel reduction treatments more operationally viable in the WLPZ including Timber Harvest Permits. While similar management in the WLPZ may be permitted using in-lieu practices, there are various reasons why this option may not be ideal or functional in the long-run, particularly in the interest of scaling climate resilient management solutions. Much progress has been made, but further work is needed to help resolve the mix of interagency and industry feedback received.

- B. As laid out in the Forest Practice Rules, the following are key to the protection of the WLPZ and remain unchanged in the current draft rule plead (916.4, 936.4, 956.4 Watercourse and Lake Protection [All Districts]; [b]): **1)** water temperature control; **2)** streambed and flow modification by large woody debris; **3)** filtration of organic and inorganic material; **4)** upslope stability; **5)** bank and channel stabilization; and **6)** vegetation structure diversity for fish and wildfire habitat (vertical diversity; migration corridor; nesting, roosting, and escape; food abundance; microclimate modification; snags; and surface cover). Ensuring these WLPZ protections are sufficiently addressed in rulemaking is considered essential.

In this context, and referencing the latest draft version of the WLPZ rules ([May 2024](#)), staff provide tables below with existing and proposed regulation language (Tables 1 and 2, respectively). Following the same format, staff also provide suggested alternatives (Table 3) to the current proposed rule plead with the aim of catalyzing a conversation and ensuring the delivery of the protections sought under #B, above. A short discussion follows as to the rationale for the alternatives presented.

Table 1: Existing rules- metrics for fuel reduction management within the WLPZ.

NOTE: This DOES NOT APPLY to ASP watersheds.							
Existing 916.5[935.5, 955.5]							
Class I							
Slope	WLPZ Width	Equipment	Surface cover	Canopy	Maximum Stump Diam	QMD	Spatial/Temporal Restrictions
<30	75	916.4[936.4, 956.4](d) No heavy equipment for falling, yarding, or site prep	916.4[936.4, 956.4](b)(6) at least 75%	50% overstory and 50% understory canopy, 25% of residual overstory composed of existing conifer.	none	not specified	none
30-50	100	916.4[936.4, 956.4](d) No heavy equipment for falling, yarding, or site prep	916.4[936.4, 956.4](b)(6) at least 75%	50% overstory and 50% understory canopy, 25% of residual overstory composed of existing conifer.	none	not specified	none
>50	100-150	916.4[936.4, 956.4](d) No heavy equipment for falling, yarding, or site prep	916.4[936.4, 956.4](b)(6) at least 75%	50% overstory and 50% understory canopy, 25% of residual overstory composed of existing conifer.	none	not specified	none
Class II							
Slope	WLPZ Width	Equipment	Surface cover	Canopy	Maximum Stump Diam	QMD	Spatial/Temporal Restrictions
<30	50	916.4[936.4, 956.4](d) No heavy equipment for falling, yarding, or site prep	916.4[936.4, 956.4](b)(6) at least 75%	50% total, 25% of residual overstory composed of existing conifer.	none	not specified	none
30-50	75	916.4[936.4, 956.4](d) No heavy equipment for falling, yarding, or site prep	916.4[936.4, 956.4](b)(6) at least 75%	50% total, 25% of residual overstory composed of existing conifer.	none	not specified	none
>50	75-100	916.4[936.4, 956.4](d) No heavy equipment for falling, yarding, or site prep	916.4[936.4, 956.4](b)(6) at least 75%	50% total, 25% of residual overstory composed of existing conifer.	none	not specified	none

Table 2: Proposed rule plead- metrics for fuel reduction management within the WLPZ (BOF Version: May 2024).

Note:

1. To address resource concerns in the WLPZ, four new metrics are introduced under the current proposed regulation (EEZ; stump diameter; QMD; and spatial/temporal restrictions).

NOTE: This DOES NOT APPLY to ASP watersheds.									
Proposed 916.13									
Slope	WLPZ Width Class I Class II		Core EEZ	Equipment	Surface Cover	Canopy	Max Stump Diam	QMD	Spatial/Temporal Restrictions
<30	75	50	10-ft EEZ, no trees larger than 24-inches DBH	Tracked equipment only (unless explained and justified)	916.4[936.4, 956.4](b)(6) does not apply	40% "closure" east-side pine; 60% "closure" coastal redwood and douglas-fir; 50% "closure" mixed conifer and other	36	QMD of trees greater than 8 inches dbh pre-harvest maintained or increased post-harvest	1400 feet in same Planning Watershed and Ownership w/in 700' or 2x the length of the treatment (the longer) w/in 5 yrs years of treatment
30-<40	100	75	25-ft EEZ, no trees larger than 24-inches DBH	Tracked equipment only (unless explained and justified)	916.4[936.4, 956.4](b)(6) does not apply	40% "closure" east-side pine; 60% "closure" coastal redwood and douglas-fir; 50% "closure" mixed conifer and other	36	QMD of trees greater than 8 inches dbh pre-harvest maintained or increased post-harvest	1400 feet in same Planning Watershed and Ownership w/in 700' or 2x the length of the treatment (the longer) w/in 5 yrs years of treatment
40-50	100	75	25-ft EEZ, no trees larger than 24-inches DBH	Tethered equipment only	916.4[936.4, 956.4](b)(6) does not apply	40% "closure" east-side pine; 60% "closure" coastal redwood and douglas-fir; 50% "closure" mixed conifer and other	36	QMD of trees greater than 8 inches dbh pre-harvest maintained or increased post-harvest	1400 feet in same Planning Watershed and Ownership w/in 700' or 2x the length of the treatment (the longer) w/in 5 yrs years of treatment
>50	100-150	75-100	25 ft EEZ, no trees larger than 24-inches DBH	Tethered equipment only	916.4[936.4, 956.4](b)(6) does not apply	40% "closure" east-side pine; 60% "closure" coastal redwood and douglas-fir; 50% "closure" mixed conifer and other	36	QMD of trees greater than 8 inches dbh pre-harvest maintained or increased post-harvest	1400 feet in same Planning Watershed and Ownership w/in 700' or 2x the length of the treatment (the longer) w/in 5 yrs years of treatment

Table 3: Proposed alternative rules- metrics for fuel reduction management within the WLPZ (alternative to BOF May 2024 version).

Notes:

1. Yellow boxes indicate suggested changes to proposed May 2024 BOF rule language (three metrics have become more permissive and three metrics have become more protective).
2. To address resource concerns in the WLPZ, four new metrics consistent with those in the current draft rule plead (May 2024 BOF; Table 2) are also provided in the alternative proposed alternative with adjustments as listed below (EEZ; stump diameter; QMD; and spatial/temporal restrictions).
3. The ** symbol signifies a suggestion for a more protective mix of metrics that, *only when combined*, allow for unrestricted spatial extent and temporal frequency of fuel reduction treatments.

NOTE: This DOES NOT APPLY to ASP watersheds.									
Alternative Proposal 916.13									
Slope	WLPZ Width Class I Class II		Core EEZ/ELZ	Equipment	Surface Cover**	Canopy**	Max Stump Diameter	QMD	Spatial/Temporal Restrictions**
<30	75	50	25-ft EEZ; (or) 10 ft EEZ and 10-25 ft ELZ, no trees larger than 24-inches DBH	Tracked equipment only (unless explained and justified)	916.4[936.4, 956.4](b)(6) at least 75% (unless explained and justified)	40% "cover" east-side pine; 60% "cover" coastal redwood and douglas-fir; 50% "cover" mixed conifer and other	36 (unless explained and justified with director approval)	QMD of trees greater than 8 inches dbh pre-harvest maintained or increased post-harvest	No limits (as explained and justified and with director approval)
30-<40	100	75	25-ft EEZ, no trees larger than 24-inches DBH	Tracked equipment only (unless explained and justified)	916.4[936.4, 956.4](b)(6) at least 75% (unless explained and justified)	40% "cover" east-side pine; 60% "cover" coastal redwood and douglas-fir; 50% "cover" mixed conifer and other	36 (unless explained and justified with director approval)	QMD of trees greater than 8 inches dbh pre-harvest maintained or increased post-harvest	No limits (as explained and justified and with director approval)
40-50	100	75	25-ft EEZ, no trees larger than 24-inches DBH	Tethered equipment only (unless explained and justified)	916.4[936.4, 956.4](b)(6) at least 75% (unless explained and justified)	40% "cover" east-side pine; 60% "cover" coastal redwood and douglas-fir; 50% "cover" mixed conifer and other	36 (unless explained and justified with director approval)	QMD of trees greater than 8 inches dbh pre-harvest maintained or increased post-harvest	No limits (as explained and justified and with director approval)
>50	100-150	75-100	25-ft EEZ, no trees larger than 24-inches DBH	Tethered equipment only (unless explained and justified)	916.4[936.4, 956.4](b)(6) at least 75% (unless explained and justified)	40% "cover" east-side pine; 60% "cover" coastal redwood and douglas-fir; 50% "cover" mixed conifer and other	36 (unless explained and justified with director approval)	QMD of trees greater than 8 inches dbh pre-harvest maintained or increased post-harvest	No limits (as explained and justified and with director approval)

Explanation for Suggested Alternative Rule Metrics (Table 3):

1. **Alternative Equipment Exclusion Zone (EEZ) and Equipment Limitation Zone (ELZ):** Staff suggest incorporating **more protective** measures for this metric as explained below.
 - a. To ensure sufficient protective measures for this sensitive ecological zone, require a **minimum 25-foot EEZ on either side of the Class 1 or Class 2 channel for heavy equipment of any kind, for all slope categories** (this would then include slopes < 30%). Modern forestry equipment, including masticators and the like, can readily access most vegetation within the EEZ observing this protective distance while achieving management objectives.
 - b. If there is strong evidence that management cannot be achieved as stated in item (a), above, require a **10–25-foot ELZ on either side of the Class 1 or Class 2 channel for heavy equipment of any kind on slopes of less than 30%**. Slopes greater than 30% would retain the currently proposed restriction of 25-feet.
2. **Alternative Equipment:** Staff suggest **more permissive** measures for this metric as explained below.
 - a. Given the right mix of site conditions, even on slopes greater than 40%, heavy equipment other than tethered equipment may be permissible, if operationally required and explained and justified to the satisfaction of the review team during a preharvest inspection.
3. **Alternative Surface Cover:** Staff suggest **more protective** measures for this metric as explained below.
 - a. It would be helpful to understand why the current 75% surface cover requirement was eliminated in the currently proposed rule plead.
 - b. Staff believe retaining the existing rule of “at least 75%” surface cover and undisturbed area (except for instances of broadcast burning) is appropriate to continue to act as a filter strip for raindrop energy dissipation, and for wildlife habitat. Depending on slope angle, the vegetation profiles needed for soil retention, filtration, and habitat will vary. In any case, retaining a higher level of surface cover is essential for ecosystem values.
 - c. Staff believe that achieving fuel reduction treatment objectives (creating horizontal and vertical discontinuity) is possible without significant reduction, let alone elimination, of soil cover standards. This said, options to explain and justify operational needs to deviate from the standard remain available in the proposed alternative rule plead.
4. **Alternative Canopy:** Staff suggest incorporating **more protective** measures for this metric as explained below.
 - a. Reconsider language for the canopy metric that references canopy “closure” and change to canopy “cover,” while retaining the draft numeric standards for further discussion.
 - i. The proposed rule plead uses the Forest Fire Prevention exemption numeric standards for canopy cover, however it appears to inadvertently reference canopy closure. The distinction between “closure” and “cover” is significant

(e.g., if canopy closure is 40% that roughly equates to canopy cover of 20%; expert opinion Dr. Eric Knapp [May 2024]).

- ii. Implications to the WLPZ of dramatically reduced canopy cover and respective closure standards are hotter, dryer conditions and the potential to *increase* unwanted understory growth/surface fuels.

Recommend fixing the language to canopy cover to remedy the more significant concern, while allowing further discussion on what the appropriate canopy cover requirements for this sensitive ecological zone should be (recommend including aquatic ecologist expert opinion to support this component).

5. **Alternative Maximum Stump Diameter:** Staff suggest incorporating **more permissive** measures for this metric as explained below.

- a. Recommend retaining the proposed 36” maximum stump diameter provision but introduce the possibility of greater stump diameter allowance in cases where the fuel reduction need is demonstrated to the review team (i.e., mitigation of ladder fuels associated with certain trees that may exceed 36” stump diameter). This enables reasonable forester flexibility in limited instances where larger trees present a clear fire risk to the adjoining stand. The accompanying QMD standard will help ensure that larger trees are retained across the treatment.

6. **Alternative Spatial and Temporal Restrictions:** Staff suggest incorporating **more permissive** measures for this metric as explained below.

- a. If both surface cover and canopy cover standards proposed in Table 3 as alternative language are accepted, suggest no spatial and temporal fuel reduction treatment restrictions. To mitigate wildfire behavior in any setting including the WLPZ, the frequency of treatment and scale of treatment need to be sufficient. If sufficient protections as outlined on page 1, B, and addressed in Table 3 are provided for, restrictions are not needed. If, however, surface cover and canopy cover metrics are not addressed along the lines of content in Table 3, suggest retaining the currently proposed spatial and temporal restrictions in the current draft rule plead.

Lastly, though not a part of the alternatives considered under Table 3, it is recommended that monitoring provisions associated with the proposed rulemaking are accomplished sooner than 2035. It is recommended that monitoring outcomes and impacts should occur no later than 5 years after the adoption of the revised rules. Further, the California Geological Survey should be explicitly listed as a participant along with the rest of the review team departments.