

DRAFT "ROAD RULES" FSOR

California Board of Forestry and Fire Protection

FINAL STATEMENT OF REASONS

"ROAD RULES, 2013"

[Adopted October 9, 2013]

Title 14 of the California Code of Regulations (14 CCR),

Division 1.5, Chapter 4, Subchapters 1, 4, 5, 6, Articles 4, 5, 6, 8, and 12;

Subchapter 7, Articles 2, 6.5, 6.8, 6.9, and 7

Amend:

§ 895.1	Definitions
§ 914.7 [934.7, 954.7]	Timber Operations, Winter Period
§ 914.8 [934.8, 954.8]	Tractor Road Watercourse Crossing
§ 915.1 [935.1, 955.1]	Use of Heavy Equipment for Site Preparation
§ 916.3 [936.3, 956.3]	General Limitations Near Watercourses, Lakes, Marshes, Meadows and Other Wet Areas
§ 916.4 [936.4, 956.4]	Watercourse and Lake Protection
§ 916.9 [936.9, 956.9]	Protection and Restoration of the Beneficial Functions of the Riparian Zone in Watersheds with Listed Anadromous Salmonids
§ 918.3 [938.3, 958.3]	Roads to be Kept Passable
§ 923 [943, 963]	Logging Roads and Landings
§ 923.1 [943.1, 963.1]	Planning for Roads and Landings
§ 923.2 [943.2, 963.2]	Road Construction
§ 923.3 [943.3, 963.3]	Watercourse Crossings
§ 923.4 [943.4, 963.4]	Road Maintenance
§ 923.5 [943.5, 963.5]	Landing Construction
§ 923.6 [943.6, 963.6]	Conduct of Operations on Roads and Landings
§ 923.7 [943.7, 963.7]	Licensed Timber Operator Responsibility for Roads and Landings
§ 923.8 [943.8, 963.8]	Planned Abandonment of Roads, Watercourse Crossings, and Landings
§ 923.9 [943.9, 963.9]	Roads and Landings in Watersheds with Listed Anadromous Salmonids
§ 1034	Contents of Plan
§ 1051.1	Contents of Modified THP
§ 1090.5	Contents of NTMP
§ 1090.7	Notice of Timber Operations Content
§ 1092.09	PTHP Contents
§ 1093.2	Contents of Road Management Plan
§ 1104.1	Conversion Exemptions

Repeal:

§ 918.3 [938.3, 958.3].	Roads to be Kept Passable
§ 923.9.1 [943.9.1]	Measures for Roads and Landings in Watersheds with Coho Salmon

Adopt:

Technical Rule Addendum Number 5 – "Guidance on Hydrologic Disconnection, Road Drainage, Minimization of Diversion Potential, and High Risk Crossings."

DRAFT "ROAD RULES" FSOR

UPDATED INFORMATION: OVERVIEW OF FINAL ADOPTED REGULATORY ACTION AND STATUTORY CONTEXT

In its adoption of the "Road Rules, 2013" rulemaking proposal on October 9, 2013, the Board of Forestry and Fire Protection (Board) concluded nearly a decade of work on its revision of all existing logging road, landing, and watercourse crossing rules. This work began in earnest in December 2004 when the Board established a new "Road Rules Technical Working Group" consisting of representatives from the State Departments of Forestry and Fire Protection, and Fish and Game (now Department of Fish and Wildlife), the State Water Resources Control Board, North Coast Regional Water Quality Control Board, Central Valley Regional Water Quality Control Board, California Geological Survey, National Marine Fisheries Service, the commercial timber industry, and the environmental activist community. This Technical Working Group's assignment was to review and reorganize the existing Forest Practice Rules related to logging roads, landings, and watercourse crossings into a clear and concise package so that all such rules would reside in one location within the Forest Practice Rulebook.

In 2007, the Technical Working Group submitted their proposed roads and watercourse crossings rule reorganization to the Board's Forest Practice Committee for review and action. The Forest Practice Committee subsequently decided to place the Group's proposal on hold in order to address more pressing concerns regarding existing Forest Practice Rule protections for listed anadromous salmonids. In 2009, the Board adopted a comprehensive rulemaking proposal known as the "Anadromous Salmonid Protection Rules" ("ASP Rules"). This adopted rule set included new rule provisions for logging roads and watercourse crossings. The Board subsequently directed the Technical Working Group to incorporate the ASP Rules for road and watercourse crossings into the proposed roads and watercourse crossings rule reorganization package.

Largely as a result of the ASP Rules adoption, the Board diverged from its original course of road rule reorganization in late 2009. To be sure, reorganization remained an important element of the effort, but the Board's revised focus turned sharply toward the adequacy of the existing rules for roads, landings, and crossings. The Board directed its Forest Practice Committee to complete a comprehensive evaluation of the existing rule standards with input from the Road Rules Technical Working Group.

In what could be characterized as an initial step toward adoption of the "Road Rules," the Board in September 2010 adopted a rulemaking proposal identified as "Operations on Saturated Soils and Stable Operating Surfaces, 2010." This package re-established the linkage between operations and avoidance of adverse impacts to water quality. These rules became effective January 1, 2011.

Thereafter and until August 13, 2013, the Board's Forest Practice Committee completed a comprehensive, deliberative review of the Roads Rules Technical Working Group's proposal as modified by subsequent rule adoptions. This process included an initial 90-day Notice of Rulemaking in late 2011, and a two-day field trip to the Coast Forest District. It likewise included publicly-noticed Committee meetings and workshops too numerous to mention, concluding with a ten-hour Forest Practice Committee meeting August 6, 2013. At the conclusion of this meeting, a version of the rule text was finalized so that the Board might consider publication of a notice of rulemaking and solicit public comment upon it. At its subsequent meeting of August 8, 2013, the Board authorized a 45-day Notice of Rulemaking on the revised draft rule proposal and accompanying Technical Rule Addendum Number 5. The 45-day Notice of Rulemaking was published

DRAFT "ROAD RULES" FSOR

August 23, 2013. The close of the written comment period occurred at 5PM on October 7, 2013 and a public hearing was conducted at the regularly scheduled meeting of the Board on October 9, 2013. The Board received fourteen written comment letters in advance of the meeting and took oral testimony from those commenters among others. Following discussion of the rulemaking alternatives available to it, the Board adopted the noticed regulation with a number of non-substantive revisions to the rule text and Technical Rule Addendum Number 5 intended to improve clarity.

The Road Rules have been referred to by state agency representatives as the “second leg” of a “three-legged stool,” the first leg of which was the 2009 adoption of the ASP Rules. The third and final leg yet to come is the Board’s review of the current process by which potential cumulative impacts from proposed harvesting activities are analyzed. Together, the “three legs” are intended to comprehensively address protection of the beneficial uses of water such that a high bar of resource protection as well as long-term regulatory certainty may be achieved. Since adoption of the ASP Rules, this has been the Board’s aim, and the Board intends to monitor the results of these actions through its newly created “Effectiveness Monitoring Committee” as implementation continues.

It is widely acknowledged that the adopted Road Rules are not a perfect achievement. However, the process by which the new rule set came to be adopted was exhaustive by any measure and included considerable input from all quarters. The Board acknowledges there is much uncertainty and concern about implementation of the adopted rules beginning in January 1, 2014. The regulated public is rightly concerned about the potential practical and economic effects of the adopted regulation. Regulatory agencies are similarly concerned about the consequences of a complete reorganization of all the existing road, landing, and crossing rules with the overlay of new performance standards. The Board accordingly urges both regulator and regulated to work patiently toward shared perspectives on the Road Rules’ overarching themes of “hydrologic disconnection” and “significant sediment discharge.”

Based upon the findings below and a review of alternatives to the proposed regulation, the Board has determined the following:

- No alternative considered would be more effective in carrying out the purpose for which the regulation was intended.
- No alternative would be as effective and least burdensome to affected private persons than the adopted regulation.
- No alternative would be more cost effective to affected private persons and equally effective in implementing the relevant provisions of Public Resources Code Section 4511, *et seq.*

SPECIFIC FINDINGS APPLICABLE TO RULE ADOPTION

- The Board finds logging roads, landings, and watercourse crossings can be sources of timber harvesting-related sediment inputs to watercourses even as it acknowledges the high level of Forest Practice Rule compliance demonstrated by the monitoring results of the “Hillslope Monitoring Program,” “Modified Completion Report Monitoring Program,” and “Inter-agency Mitigation Monitoring Program.”

DRAFT "ROAD RULES" FSOR

- The Board finds implementation of the concept of “hydrologic disconnection” through the adopted rule set is an important new step towards further minimizing the potential for adverse water quality effects related to timber harvest activities.
- The Board finds the incorporation of a balance of performance and prescriptive standards in the adopted rule set allows for operational flexibility while maintaining a high bar for resource protection.
- The Board finds monitoring and reporting on the implementation of the adopted rule set by the Board’s “Effectiveness Monitoring Committee” is a critical component necessary to understanding the regulation’s effects over time.
- The Board finds it has a shared responsibility with timberland owners, managers, and regulatory agencies to ensure implementation of the adopted rule set closely follows the intentions conveyed by all parties during the years-long deliberations on the rule components, and that the key elements of practicality and reasonableness are maintained.

BOARD’S ADOPTED ALTERNATIVE

Preferred Alternative: Adoption of Proposal as Noticed with Non-substantive Revisions.

The Board adopted “Alternative 5” discussed in the Initial Statement of Reasons, including the new “Technical Rule Addendum Number 5.” In doing so, the Board also adopted a number of non-substantive revisions to the noticed rule text and Technical Rule Addendum for improved rule clarity. The Board Members were very careful in adopting these minor revisions to include only those suggested revisions deemed not to require further 15 or 45-day Noticing.

In adoption of this alternative, the Board has achieved its two primary objectives of ensuring state-of-the-art protection for the beneficial uses of water while improving the clarity and utility of all road-related Forest Practice Rules. This alternative represents the successful culmination of nearly a decade of inter-agency collaboration and public participation toward a shared goal. It likewise acknowledges the past fifteen months of dedicated effort by the Board’s Forest Practice Committee Members and participants.

The originally noticed proposal was remanded to the Forest Practice Committee for the purpose of evaluating the considerable comment and proposed revisions received, and closely examining the content of the rule proposal. The Committee has certainly completed those tasks and produced a version of the rule text that appears leaner and more on point. The adopted rule text retains the comprehensive new provisions aimed at the overarching theme of “hydrologic disconnection.” It also includes the new Technical Rule Addendum Number 5 to help guide both regulated and regulator toward compliance with the Board’s intentions.

DRAFT "ROAD RULES" FSOR

BRIEF SYNOPSIS OF ADDITIONAL ALTERNATIVES CONSIDERED AND REJECTED

Alternative 1: No Action – No Changes to Existing Rules or Format.

Adoption of this alternative would have resulted in no change to the California Forest Practice Rules as they currently exist. No attempt would be made to ensure their adequacy for protection of the beneficial uses of water in association with permitted timber operations. No changes to the existing organization and format of the Rules would be proposed for improvement of utility and user comprehension. This alternative would not have fulfilled the Board's priority for review of all road-related Forest Practice Rule provisions to ensure state-of-the-art consistency with water quality objectives. Neither would this alternative have satisfied the objective of improved road and watercourse rule coherency.

Time spent in the drafting and consideration of a rule proposal is not necessarily a metric by which success or failure can be measured. However, adoption of this alternative would have seemingly ignored a decade of effort by many individuals from the regulated public and regulatory agencies. This alternative could have been chosen, as in previous instances, for the purpose of remanding the rule set back to the Forest Practice Committee for further work. However, in light of the preceding 15 months spent by the Forest Practice Committee to produce the adopted iteration of the rule proposal, this alternative was considerably less than desirable. For these reasons among others, this alternative was rejected.

Alternative 2: Partial Adoption of Proposal – Adopt Only Board Technical Rule Addendum Number 5.

Adoption of this alternative would have resulted in the Board's singular adoption of the newly drafted Technical Rule Addendum Number 5 – "Guidance on Hydrologic Disconnection, Road Drainage, Minimization of Diversion Potential, and High Risk Crossings." All of the proposed amended and repealed rule sections contained in the noticed rule text would not have been adopted, and the existing rules related to roads and watercourse crossings would remain in their present condition and location.

Under this alternative, the Board's intentions with regard to the concept of hydrologic disconnection would have been in the form of guidelines rather than strictly enforceable rule requirements. The rule addendum would have been tied to existing road and watercourse-related rule sections, including the existing definition for "hydrologic disconnection" found in rule section 895.1. Adoption of this alternative could have served as a signal of the Board's intention that all road networks and watercourse crossings be hydrologically disconnected to the extent feasible. It could likewise have indicated the Board desired more time to evaluate the proposed rule amendments and their implications.

Given the complexities associated with the rule proposal in terms of dual revision and reorganization, adoption of this alternative could be viewed as an initial footing from which to expand the Board's efforts. At least one Board Member as well as members of the regulated public concurred with this perspective and offered support for it. However, a majority of the Board determined the rule addendum was best paired with the rule text revisions for the reasons discussed herein. This alternative was accordingly rejected by a majority of the Board.

DRAFT "ROAD RULES" FSOR

Alternative 3: Partial Adoption of Proposal – Adopt Only Rule Text (Do Not Adopt Technical Rule Addendum Number 5).

Adoption of this alternative would have resulted in the Board's singular adoption of the rule text without the inclusion of Technical Rule Addendum Number 5 – "Guidance on Hydrologic Disconnection, Road Drainage, Minimization of Diversion Potential, and High Risk Crossings." Adoption of this alternative would seemingly have recognized the significant duration of rule drafting efforts over the course of the past decade. It could also have been perceived as a demonstration of the Board's preference for enforcement over education.

It is true that the technical rule addendum is not nearly as enforceable as the prescriptive and performance-based provisions of the rule text. However, that is not the intent of such documents. By including a guidance document with the rule set, the Board essentially acknowledged the challenges associated with rule compliance. As has been consistently demonstrated in discussions and field excursions, the concept of "hydrologic disconnection" can mean different things to different people. The guidance document was intentionally drafted to recognize this fact and to help remedy any disparities in rule comprehension. The combination of the proposed rule set and addendum was ultimately determined by a majority of the Board to be a better alternative than adoption of one or the other alone. For these reasons, the Board rejected this alternative.

Alternative 4: Adoption of Proposal with Sunset Date.

The adoption of this alternative would have resulted in the Board's adoption of the complete rulemaking proposal (including Technical Rule Addendum Number 5) with the addition of a specific sunset date. The intention of the sunset date would have been to specify a deadline by which the Board must have evaluated and reconsidered extension of the proposal's lifespan. While proponents of a sunset date might argue that inclusion of such a feature prompts the Board to review the regulation on an ongoing basis, the Board is already obligated by Public Resources Code Section 4553 to continuously review and revise regulations as appropriate. And, in the absence of a sunset date, the regulated public most affected by the rulemaking proposal has some assurance of regulatory certainty during the timeline of planned operations.

A possible downside to sunset dates that has been demonstrated in other Board rulemaking efforts is the disproportionate amount of meeting and staff time spent on the same regulation. As has been illustrated by other Board regulations adopted with a sunset date, monitoring of rule effectiveness may not yield meaningful information in the time interval between adoption and the initial sunset date. In such instances, the Board is compelled to readopt a regulation with revised sunset dates on one or more occasions until such time as the regulation has been utilized sufficiently to generate meaningful information for its review. In light of the aforementioned existing statutory authority for continuous review and revision of existing regulations, it may be more sensible to rely upon that authority rather than a sunset date to achieve the same objective.

The provision of a sunset date may have provided a measure of comfort to both regulator and regulated that the Board intends to closely monitor implementation of the rule set with an eye toward useful revision. However, the Board signaled its intentions to utilize its newly established "Effectiveness Monitoring Committee" for this purpose. This alternative was the least considered of the five and rejected unanimously.

DRAFT "ROAD RULES" FSOR

SUMMARY OF BOARD'S NON-SUBSTANTIVE REVISIONS TO ADOPTED RULE TEXT AND TECHNICAL RULE ADDENDUM NUMBER 5

The Board, during its deliberations on the rule proposal, identified a number of minor, non-substantive revisions to the rule text and Technical Rule Addendum Number 5 (TRA 5). The Board adopted these revisions, being careful to avoid other suggested rule text or TRA 5 changes that might have necessitated additional 15 or 45-day public noticing. The adopted revisions are as follows:

Revision to Amended Definition of "Permanent Road Network," Section 895.1:

The Board adopted the additional clarifying sentence indicated in double underline as follows: "Abandoned roads are not part of the permanent road network."

This rule revision was adopted for the sake of consistency with the remainder of the adopted rule text.

Revision to Restore Definition of "Public Road," Section 895.1:

The Board restored the existing definition of "public road," as it appeared to have been inadvertently struck from the proposed rule text due to staff error.

Revision to Amended Definition of "Seasonal Road," Section 895.1:

The Board revised the amended definition of "seasonal road" as indicated in the double strikethrough and double underline: "These roads have a surface that is suitable for maintaining a stable operating surface during the ~~season~~ period of use."

The Board believes use of the word "period" rather than "season" more clearly articulates the intention of the definition.

Revision to Amended Rule Section 916.3(c)(3) [936.3(c)(3), 956.3(c)(3)]. General Limitations Near Watercourses, Lakes, Marshes, Meadows and Other Wet Areas:

The Board revised the amended rule section as indicated in the double underline: "At new and existing tractor and road crossings approved as part of the Fish and Game Code process (F&GC 1600 et seq.)."

The revision was adopted to clearly articulate the rule applies to both new and existing tractor and road crossings.

Revision to Amended Rule Section 916.9(n)(1)(C) [936.9(n)(1)(C), 956.9(n)(1)(C)]:

The Board revised the amended rule section as indicated in the double strikethrough and double underline: "(DC) Any other area of disturbed soil that threatens to discharge sediment into waters in amounts that would result in a significant sediment discharge ~~deleterious to the quality and beneficial uses of water.~~"

This rule revision was adopted for the sake of consistency with the use of the newly adopted term "Significant Sediment Discharge" throughout the adopted rule text.

Replacement of Incorrect Acronym for California Department of Fish and Wildlife:

As of January 1, 2013, the California Department of Fish and Game "DFG" is now identified as the California Department of Fish and Wildlife or "CDFW."

The Board adopted this revision throughout the adopted rule text at the suggestion of the Department.

DRAFT "ROAD RULES" FSOR

Revision to Amended Rule Section 923.1(e)(4)[943.1(e)(4), 963.1(e)(4)]. Planning for Logging Roads and Landings.

The Board corrected the inaccurate rule subsection reference from “(d)(1)” to “(e)(1)” as indicated in the double strikethrough and double underline: “...§ 923.1 [943.1, 963.1], subsection (~~d~~)(1), for which no feasible treatment measures exist.”

The reason for this revision is self-evident.

Revision to Amended Rule Section 923.2(a)(4) [943.2(a)(4), 963.2(a)(4)]. Design and Location for Logging Roads and Landings Road Construction.

The Board revised the amended rule subsection as indicated in the double underline: “Be outsloped where feasible and drained with waterbreaks and/or rolling dips in conformance with other applicable Forest Practice Rules.”

The Board adopted this revision recognizing logging road segments are often drained by a combination of waterbreaks and rolling dips, rather than just one or the other.

Revision to Amended Rule Section 923.5(g)&(h) [943.5(g)&(h),963.5(g)&(h)]. Erosion Control for Logging Roads and Landings Landing Construction.

The Board adopted references to Technical Rule Addendum Number 5 in amended subsections (g) and (h).

These references were adopted for consistency with other such references throughout the adopted rule text.

Revision to Amended Rule Section 923.5(i) [943.5(i),963.5(i)]. Erosion Control for Logging Roads and Landings Landing Construction.

The Board adopted the substitution of the word “shall” for the word “will” as indicated in the double strikethrough and double underline: “...necessary and feasible treatments to prevent the discharge ~~will~~ shall be described in the plan.”

This revision was necessary for consistency with the Forest Practice Rules’ reliance upon the term “shall” to indicate compulsory standards.

Revision to Amended Rule Section 923.5(q)(3)(C) [943.5(q)(3)(C),963.5(q)(3)(C)]. Erosion Control for Logging Roads and Landings Landing Construction.

The Board revised the language of this amended rule standard for slash mulch use in erosion control for logging roads and landings as indicated in the double strikethrough and double underline: “Where slash mulch is applied, a minimum of 75% of the area shall be covered by slash in contact with the ground. ~~slash coverage in contact with the ground surface shall be a minimum of 75 percent.~~”

The Board revised the amended rule language for improved clarity of the standard.

Revision to Amended Rule Section 923.7(l)(3)(A)(iv) [943.7(l)(3)(A)(iv), 963.7(l)(3)(A)(iv)] Maintenance and Monitoring for Logging Roads and Landings

The Board revised the numerical velocity measurement standard in this amended rule subsection as indicated in the double strikethrough: “The approach velocity (water moving through the screen) shall not exceed 0.3~~2~~ feet/second.”

DRAFT "ROAD RULES" FSOR

The Board revised this longstanding standard to acknowledge measurement of velocity to two significant figures in the field during water drafting is not practically possible.

Revision to Restore and Renumber Existing Rule Section entitled “Licensed Timber Operator Responsibility for Roads and Landings” (previously identified as existing rule Section 923.7 [943.7, 963.7])

This existing rule section was struck during the final Forest Practice Committee meeting on the rule proposal. At the time, the Committee believed existing rule Section 1035.3 (“Licensed Timber Operator Responsibilities”) adequately accounted for the older rule language of Section 923.7 [943.7, 963.7]. However, in both written and oral comments presented to the Board, Associated California Loggers, a group representing the majority of Licensed Timber Operators in the State, advised otherwise. While the Board would have preferred to incorporate this rule section into existing Section 1035.3, it ultimately chose to restore the existing language and address its possible incorporation into Section 1035.3 at a later date. The restored Section now appears in the adopted rule text as new Section “923.7.1.”

Revision to Amended Rule Section 923.9(m)(2)&(o) [943.9(m)(2)&(o), 963.9(m)(2)&(o)]. ~~Roads and Landings in Watersheds with Listed Anadromous Salmonids. [All Districts]~~ Watercourse Crossings [All Districts]

The Board adopted references to Technical Rule Addendum Number 5 in amended subsections (m)(2) and (o).

These references were adopted for consistency with other such references throughout the adopted rule text.

Revision to Amended Rule Section 1034(x). Contents of Plan

The Board revised the map referencing in amended rule Section 1034(x) as indicated in double underline and double strikethrough: “On titled USGS (if available) or equivalent topographic maps of a scale not less than 2” to the mile, the information in subsections (1-43), (4)(A), (B) and (E) ((B) and (E) for sites within the harvest area), (8), (9), and (11-13) shall be clearly shown. Additional maps, which may be topographic or planimetric, may be used to provide the information required in the other subsections, to or show specific details, and to improve map clarity. The appurtenant roads referenced in subsection (4)(B), (C), (D), and (E) ((B) and (E) for these sites not within the harvest area) may be shown on a map which may be planimetric with a scale as small as one-half inch equals one mile.”

This revision was necessary to correct the inadvertent staff error to the referencing that occurred following the Forest Practice Committee’s lengthy final rule drafting meeting.

Revision to Amended Rule Section 1034(x)(4)(A). Contents of Plan

The Board revised the mapping requirement in amended rule Section 1034(x)(4)(A) to include “deactivated” roads as indicated in double underline and double strikethrough: “The classification of all roads as permanent, seasonal, temporary, ~~deactivated~~, or proposed for abandonment.”

This revision was necessary to correct the inadvertent omission of “deactivated” roads from the list of road classifications to be mapped.

Revision to Amended Rule Section 1034(x)(4)(C). Contents of Plan

DRAFT "ROAD RULES" FSOR

The Board revised the mapping requirement in amended rule Section 1034(x)(4)(C) to indicate "logging" roads providing access to rock pits and water drafting sites rather than "appurtenant" roads should be mapped as indicated in double underline and double strikethrough: "~~Appurtenant Logging~~ roads that provide access to rock pits and water drafting sites, and the location of water drafting sites."

This revision was necessary as it was determined the definition of "appurtenant road" would not include roads used to access rock pits or water drafting sites. A "logging road" however, could be used for this purpose.

Revision to Technical Rule Addendum Number 5, Part I "Hydrologic Disconnection," Page 3, Paragraph 2, Last Sentence:

The Board revised the last sentence of Part I, the discussion of "Hydrologic Disconnection," paragraph 2 on page 3 to strike the word last word "volumes" as indicated in double strikethrough: "~~...or (5) indications of channel widening and/or incision below a drainage structure resulting from increases in flow volumes.~~"

This revision was made in the recognition that the word "volumes" was not necessary and could be confusing to the regulated public. Use of the word "volumes" could have been construed as implying a requirement for flow volume measurement.

Revision to Technical Rule Addendum Number 5, Part I "Hydrologic Disconnection," Page 8, Paragraph "C", Third Bullet, Second Sentence:

The Board revised the parenthetical reference list of site-specific conditions to include "hydrology" as indicated in double underline: "Local experience, knowledge and site specific conditions (e.g., hydrology, soil and geologic material present) should be considered by the RPF in the location and spacing of ditch drains."

This revision was made in the recognition that "hydrology" would also be an important site-specific condition for consideration by the RPF. Inclusion of "hydrology" is likewise consistent with the remainder of the Technical Rule Addendum.

Revision to Technical Rule Addendum Number 5, Part II "Road Drainage, Energy Dissipation, Outsloping and Rolling Dips," Page 12, Paragraph "C", First Sentence:

The Board revised this sentence to substitute "outside edge" for "fill slope" as indicated in double strikethrough and double underline: "Outsloped roads are built with a slight angle of the road surface towards the ~~fill slope~~ outside edge (Refer to Figure 4)."

This revision was necessary to improve the clarity of the description of outsloped roads in this paragraph.

Revision to Technical Rule Addendum Number 5, Part IV "Crossings with Higher Risk of Failure and Higher Risk to the Environment," Page 15, Sentences 6-8:

The Board revised sentences 6-8 in Part IV of the Technical Rule Addendum as indicated in double strikethrough and double underline: "Where culverts are used, and fills are large, Cafferata et al. (2004) recommend that the diameter of the culvert be increased by 6 inches for every 5 feet of fill above the ~~pipe culvert~~ on the discharge side of the crossing. The additional culvert diameter reduces the risk of failure by allowing more room for transport of flow, sediment and debris, and is relatively inexpensive compared to the cost of replacement of a failed crossing. Crossings may also be"

DRAFT "ROAD RULES" FSOR

reinforced by utilizing large rock designed to resist movement during high flows to line fill faces and by incorporating large critical dips to allow flow passage if the culvert ~~is~~ becomes plugged."

These purely editorial revisions were deemed necessary for improved clarity of the paragraph on high risk crossings.

**Revision to Technical Rule Addendum Number 5, Part V "Tables and Figures,"
Page 17, Captions below Figures 2 and 4:**

The Board revised the captions below these two figures to indicate permission for their use has been obtained.

**REITERATION OF DISCLOSURES REGARDING THE ADOPTED REGULATION,
RESULTS OF ECONOMIC IMPACT ANALYSIS, FOCUSED EVALUATION OF
POTENTIAL ECONOMIC EFFECTS, AND ANTICIPATED BENEFITS**

The results of the economic impact assessment prepared pursuant to GC § 11346.5(a)(10) for this proposed regulation indicate that it will not result in an adverse economic impact upon the regulated public or regulatory agencies.

Adoption of these regulations will not: (1) create or eliminate jobs within California; (2) create new businesses or eliminate existing businesses within California; or (3) affect the expansion of businesses currently doing business within California.

The Board has made a determination there will be no significant statewide adverse economic impact directly affecting business, including the ability of California businesses to compete with businesses in other states.

It is anticipated the adopted regulation could benefit the environment through reduction of timber harvest-related sediment inputs to watercourses. It is not however, expected to affect the health and welfare of California residents, improve worker safety, prevent discrimination, promote fairness or social equity, or result in an increase in the openness and transparency in business and government.

Cost impacts on representative private persons or businesses:

The cost of timber harvest planning and operational mitigations may be affected by the adopted regulation.

Effect on small business:

The adopted regulations may affect small businesses. Incremental increases in planning and operating costs could result from implementation of the adopted regulation.

Mandate on local agencies and school districts:

The adopted regulation does not impose a mandate on local agencies and school districts.

Costs or savings to any State agency:

Costs or savings to state timber review agencies are not anticipated to result from implementation of the adopted regulation.

DRAFT "ROAD RULES" FSOR

Cost to any local agency or school district which must be reimbursed in accordance with the applicable Government Code (GC) sections commencing with GC § 17500:

The adopted regulation does not impose a reimbursable cost to any local agency or school district.

Other non-discretionary cost or savings imposed upon local agencies:

The adopted regulation will not result in the imposition of non-discretionary costs or savings to local agencies.

Cost or savings in federal funding to the State:

The adopted regulation will not result in costs or savings in federal funding to the State.

Significant effect on housing costs:

The adopted regulation will not significantly affect housing costs.

Conflicts with or duplication of Federal regulations:

The adopted regulation neither conflicts with, nor duplicates Federal regulations. There are no comparable Federal regulations for timber harvesting on State or private lands.

BUSINESS REPORTING REQUIREMENT

The adopted regulation does not require a report, which shall apply to businesses.

FOCUSED EVALUATION OF THE POTENTIAL ECONOMIC EFFECTS RESULTING FROM THE ADOPTED "ROAD RULES, 2013" RULEMAKING PROPOSAL

The Board completed the required economic impact analysis of the potential effects of its adopted rulemaking entitled, "Road Rules, 2013" pursuant to the Administrative Procedures Act, Government Code Section 11346.3(b). The findings of this analysis contained in the Initial Statement of Reasons (ISOR) were as follows:

- The regulation includes a number of amendments to existing regulations that are not expected to significantly affect jobs in California.
- The regulation will neither create new businesses nor eliminate existing businesses in the State of California.
- The regulation will not result in the expansion of businesses currently doing business within the State.
- The regulation does not provide benefits to the health and welfare of California residents, or improve worker safety. It is possible that the regulation would be of some unknown benefit to the state's environment.
- Commercial timberland owners and managers are the most likely to be affected by the regulation.

DRAFT "ROAD RULES" FSOR

- The regulation could alter harvest permitting costs and certain ongoing management expenses, most notably erosion control, monitoring, and maintenance of permanent road networks.

These findings are not altered by the content of this subsequent focused evaluation of the economic impacts of the regulation adopted by the Board on October 9, 2013. This evaluation does not and cannot forecast absolutely the anticipated economic consequences of the adopted regulation. As stated in the economic analysis portion of the ISOR, only monitoring of the long term implementation of the "Road Rules" could achieve such quantification. The discussion herein does however attempt to discern the most notable provisions of the adopted rule set and the range of possible cost effects associated with them.

IMPACTED POPULATION

As indicated previously, the population most likely to be impacted by the adopted regulations is private timberland owners and managers. Portions of this population seemingly less likely to be significantly impacted would be those timberland owners and managers in the Coast Forest District. Owners and managers in this District have been subject to the "Threatened or Impaired Watershed Rules" (T or I Rules) since 1999 and the successor "Anadromous Salmonid Protection Rules" (ASP Rules) since 2009. These rule sets focus upon protection of "anadromous" fish species of salmon and steelhead trout that spend a portion of their lifecycle in the ocean and a portion in rivers and streams that drain to the ocean. Both the T or I and the successor ASP Rules require greater attention to reduction of sediment inputs to anadromous watersheds than the existing Forest Practice Rules for non-anadromous watersheds. As such, timberland owners in the Coast Forest District are disproportionately affected by the rule requirements. In contrast, timberland owners in the interior Northern and Southern Forest Districts enjoy considerably greater operational flexibility. To some extent, this disparity will remain despite the adoption of the "Road Rules," as existing ASP Rule requirements were retained in the adopted rule set.

Still, the "Road Rules" do impose substantial new expectations for protection of water quality that breach the "ASP-only" threshold. A clear illustration of this observation is the "erosion site identification and remedies" requirement currently only applicable to ASP Rule watersheds. This provision requires the Registered Professional Forester (RPF) to identify significant erosion sites in the plan area and propose feasible treatments to arrest harmful sediment production. While the existing statewide standard found in Section 916.4(a)(1) [936.4(a)(1), 956.4(a)(1)] is very similar in its intent, the ASP Rule provision expands and clarifies the expectation that erosion problems will be "found and fixed." The adopted "Road Rules" now essentially take this previously ASP-only requirement statewide, joining the aforementioned existing statewide companion provisions of Section 916.4(a)(1) [936.4(a)(1), 956.4(a)(1)].

It is also possible impacts would be experienced by Licensed Timber Operators primarily in the form of planning and operational delays. These delays would be directly related to road system improvements mandated by the newly adopted "hydrologic disconnection" standard. Such improvement work could alter timing of conventional logging and hauling activities to some extent. Though it must be noted that such issues have been experienced by timber operators working in the Coast Forest District since adoption of the "Threatened or Impaired Watershed Rules" in 1999. It is common in the Coast Forest

DRAFT "ROAD RULES" FSOR

District and likely in portions of the Northern and Southern Forest Districts as well, to separate harvest operations into log removal and road improvement components, respectively. In this way, logging operations may proceed without interruption as road improvement work occurs "behind" logged out portions of the harvest area. Implementation of the adopted Road Rules may well result in greater separation of harvest operations from road-related work across the state.

NEW OR MORE EXTENSIVE RULE REQUIREMENTS

The following is not an expansive expression of the adopted "Road Rules" requirements, but does appear to include the items most apparently "new" and applicable statewide.

Winter Operations Planning

Winter operations plans and in-lieu measures must now incorporate discussion of and possible mitigations for logging roads, landings, and tractor or logging road crossings. This is primarily a new statewide planning element requiring the RPF to include narrative discussion and/or listing of specific mitigation measures to be employed in winter operations. The new rule provision is not likely to result in a significant new expense for plan preparation. In at least some instances, this new requirement may be mitigated by reductions in narrative discussion or rule regurgitation in other portions of plans. Some level of narrative reduction is expected as a result of the Road Rules' exchange of prescriptive standards for more performance-based standards. To be sure, some number of harvest plans already includes such winter operations provisions either voluntarily or as a result of agency Review Team recommendations. Plans in which winter period operations are not proposed would not be impacted by this new rule provision.

Significant Existing and Potential Erosion Sites

As mentioned previously, this adopted rule requirement expands upon existing rule Section 916.4(a)(1) [936.4(a)(1), 956.4(a)(1)] and makes a current ASP-only provision applicable statewide. Under this rule provision, the RPF is compelled to identify and map all significant existing and potential erosion sites occurring on logging roads and landings, and at watercourse crossings in the plan area. The RPF must then also specify treatments to arrest these sites provided such treatments are feasible. Cost associated with this provision is both planning and operational. It will include the RPF or supervised designee's field time spent identifying and mapping the problem followed by their contemplation of a solution. The individual will then have to discuss the site(s) and feasible treatment(s) in the harvest plan, subject to review and possible recommendations for modification by Review Team agencies. Once the planning stage of the rule requirement has been satisfied, the timberland owner will then have to pay for the actual treatment out of the proceeds of their harvest. Treatment expense will of course vary by the size and type of problem, but could range from hundreds to multiple thousands of dollars.

Here again, some number of harvest plans have incorporated similar approaches to the new rule section either voluntarily or through agency Review Team recommendations. The "find it, fix it" approach is certainly not new. It was emphasized in the Department of Fish and Game "Watershed Academies" of the mid-1990's and has been utilized in Regional Water Board timber requirements for at least a decade. Road system inventories in which such problem sites are identified for treatment have been undertaken by some number of timberland owners. It has also been a significant driver of grant-funded restoration projects in a wide variety of contexts. Even so, coupled with

DRAFT "ROAD RULES" FSOR

existing Section 916.4(a)(1) [936.4(a)(1), 956.4(a)(1)], this is a substantive element of the new rule proposal intended to ensure virtually all harmful erosion sites in a plan area are addressed and treated as feasible.

Prescribed Maintenance Period

The existing prescribed erosion control maintenance period requirements apply to permanent and seasonal roads, landings, and drainage structures which are not abandoned. The modification adopted in the Road Rules specifies the inclusion of appurtenant, abandoned, and deactivated roads and landings.

The requirement to maintain erosion controls on appurtenant, abandoned, and deactivated roads will mean additional labor costs to landowners and managers. At a minimum, this could entail an additional day or more of field inspections. Appurtenant roads may be drivable during the winter period and easily inspected. Abandoned or deactivated roads would require inspections on foot. While it may be possible to arrange inspection routes to save time, inspections will take more time to complete.

It is important to note the maintenance period is limited to one year unless the Director specifies a period of up to three years. This additional cost then may be viewed as short-term. It may even be a redundant expense already accounted for by timberland owners and managers intending to conduct such inspections regardless of the requirement. The labor expense for an additional day of inspection by one individual is likely to range between two-hundred (\$200.00) and four-hundred (\$400.00) dollars. Where only one inspection is necessary, this could be the total cost of the requirement. Additional inspections or the need to utilize more than one inspector per day could result in rapidly increasing personnel costs during the maintenance period.

Once Annual Monitoring Inspection

Existing Forest Practice Rules Section 1050 specifies the period in which erosion controls are to be constructed and maintained. The implication of "maintenance" is that inspections are expected to occur during the prescribed maintenance period. Newly adopted Section 923.7(k) [943.7(k), 963.7(k)] now clearly expresses that expectation with a requirement for at least one annual monitoring inspection of all logging roads, landings, and drainage structures used for timber operations.

This newly adopted requirement is paired with the amendments to the prescribed maintenance period requirements discussed previously. The labor expense associated with the prescribed maintenance period would include the 'once-annual monitoring inspection' now required. As explained above, some owners and managers likely already perform and account for such inspections. Inspections may already be part of the normal course related to Regional Water Board requirements. Still others may view this as a new expense not previously demanded.

Hydrologic Disconnection

The one feature of the adopted regulation most likely to affect planning and operational costs is the all-inclusive requirement for "hydrologic disconnection." What this requirement may mean for logging roads, landings, and crossing approaches is highly variable and site-dependent. The variable nature of the requirement makes it challenging to identify average costs likely to be associated with this foundational feature of the regulation. In some instances, hydrologic disconnection could simply mean strategic placement of a single waterbreak on a low-gradient crossing approach. It could also just

DRAFT "ROAD RULES" FSOR

as easily be construed to mean reconstruction and drainage of a mile of multiple use road within or adjacent to a Class I Watercourse and Lake Protection Zone. The costs for both activities are dramatically different and representative of the wide range of prospective actions embodied in the concept of hydrologic disconnection.

For example, the cost for installation of rolling dips and outsliping one mile of road could range between approximately \$5,000.00 and \$30,000.00 depending upon road width, existing slope and berm condition, and rolling dip spacing. Installing or reconstructing new 18" x 40' Corrugated Metal Pipe (CMP) ditch drains along a mile of road could range between approximately \$13,000.00 and \$80,000.00 depending upon spacing between ditch drains. The cost for rocking a mile of road could range between approximately \$12,000.00 and \$90,000.00 depending upon the rock source, type, trucking distance, road width, compacted depth, and use of geotextile material. Where competent rock sources exist on site, the expense for road rocking may be reduced such that more extensive rocking may occur. Conversely, where rock must be imported at a premium, additional rocking may be judiciously metered out. The cost for installation of new culverted crossings could range between approximately \$1,500.00 and \$5,000.00 for 24" to 48" diameter CMPs. The cost for larger crossing installations and replacements would be significantly higher and will always be affected by what the excavation reveals. Indeed, bridge installations may range toward \$100,000.00 or more, depending upon location, span, materials, and unpredictable site circumstances.

Aggregate treatments in which multiple aspects of a road system are "disconnected" from watercourses could clearly extend into the tens of thousands of dollars. Comprehensive treatments such as road system decommissioning, or upgrades encompassing replacement of all drainage structures and crossings, outsliping and dip installation, and extensive rocking of surfaces and fill slopes can result in cost estimates of \$50,000.00 or more per mile. For this reason, it should be understood the "hydrologic disconnection" standard in the adopted rules must be judiciously applied, cost-effective for the timberland owner, and scaled to ownership size and location in the watershed.

In nearly every instance, the cost of disconnection treatments will also be highly dependent upon existing conditions of the site. Past treatment actions by others and the unforeseen complications often associated with such projects can and does affect treatment outcomes and cost. Staging and organization of materials can also influence project efficiency and thereby affect costs. Operator skill and experience along with use of the right piece of equipment for the job can have a significant effect on treatment cost and success.

There are also Forest District-specific factors affecting the number and type of treatments required to achieve sufficient disconnection. The geology, hydrology, and geography of each Forest District provide a distinct context in which the hydrologic disconnection standard is to be applied. The Coast Forest District has been subject to the T or I and ASP Rules for more than a decade. This coupled with greater focus on fisheries restoration for anadromous salmonids has resulted in significant improvements to road systems. It is therefore at least possible if not likely the effects of the adopted regulation would be less discernible in the Coast District than in the Northern and Southern Forest Districts. However, the adopted regulation's retention of certain existing rule distinctions between ASP Rule and non-ASP Rule watersheds may mute the District-specific effects somewhat. Application of the hydrologic disconnection standard will likely continue to focus more extensively on anadromous fish-bearing watersheds

DRAFT "ROAD RULES" FSOR

even as the difference between pre- and post-Road Rules application in the Coast District may be difficult to comprehend.

ECONOMIC EFFECTS TO IMPACTED POPULATION

The economic effects of the adopted regulation upon timberland owners, managers, and to a lesser extent Licensed Timber Operators are anticipated to be highly variable. Complicating an accurate forecast of the effects are such conditions as ownership size, history, location, and physical characteristics. The presence of shared or cooperative road segments, road use history, and proximity to competent rock sources are among many other conditions likewise affecting perceived cost of this regulation's adoption. Examination of virtually any contemporary harvest plan submission anywhere in the state amplifies this cost effect uncertainty. Road rocking, watercourse crossing upgrades, road outsloping and rolling dip installation, road "storm-proofing" or decommissioning are already occurring across the state annually. These activities are occurring either through voluntary action by landowners, existing ASP Rules compliance, and Review Team recommendations offered during pre-harvest inspections. Examples of these activities were viewed during the Board's one field trip to sites in the Coast Forest District. It is therefore entirely conceivable, some number of timberland owners and managers would be unaffected by the adopted regulation. Owners and managers in the Coast Forest District may discern little if any difference between actions related to the ASP Rules and those related to the adopted "Road Rules." Little effect may likewise be experienced by those in the Northern and Southern Forest Districts who have likewise already undertaken significant road, landing, and crossing improvements. The managers and owners in the Northern and Southern Forest Districts may also have the advantages of fewer watercourses, less erodible soils, greater geologic stability, and less rainfall intensity.

However variable, "hydrologic disconnection" is a strict new standard likely to yield additional planning and operational costs to some portion of the impacted population. The persistence of these cost effects over time can only be speculated upon. Regardless, implementation of the adopted regulation demands great care. In complex circumstances, application of the hydrologic disconnection standard may be a matter for great debate amongst professionals. Certainly, measures to address disconnection will always be based upon site-specific conditions and the limits of feasibility. But, how individuals view a specific condition and the treatment options available is likely to be a source of some divergence. Indeed, such divergence of professional opinion is often an element in contemporary pre-harvest inspections. It is therefore not hard to imagine "hydrologic disconnection" as a similar source of spirited discussion between resource professionals in the field.

Notwithstanding ownerships voluntarily restricted by the terms of conservation easements, it is inconceivable a timberland owner of any size and in any Forest District would agree to harvest their timber at an economic loss or break-even figure. Where cost-prohibitive expectations for hydrologic disconnection are applied, timberland owners will be unable to press forward toward harvest plan approval. It is therefore incumbent upon all who operate under or enforce the adopted rule standards to maintain sight of the larger context. Hydrologic disconnection is a single, well-placed waterbreak and it is complete "storm-proofing" of a mile of road. The range of cost begins with a single person bearing a shovel and ends with multiple pieces of equipment, materials, and personnel. Cost effects of the adopted regulation will in large part be the result of fitting the most effective/least costly treatment to the site-specific condition.

DRAFT "ROAD RULES" FSOR

PUBLIC WRITTEN COMMENTS AND RESPONSES RESULTING FROM 45-DAY NOTICE OF PROPOSED RULEMAKING PUBLISHED AUGUST 23, 2013
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Comment L1-1: William E. Snyder, Deputy Director, California Department of Forestry and Fire Protection.

“This comprehensive rule package proposes to amend and repeal existing rule language pertaining to forest roads, as well as adopt a new Technical Rule Addendum for guidance to Registered Professional Foresters, agency staff, and the public. CAL FIRE strongly supports the 45-day rule package, but we do request that the Board consider adoption of the minor changes provided attached to this letter. CAL FIRE believes that the recommended changes provide for clarity and needed improvements involving road-related Forest Practice Rules. The Department looks forward to helping ensure successful implementation of the rule package by developing LTO, RPF, and agency training workshops.

Department staff have been involved in the Forest Practice Committee discussions and field meetings over several years that have led to the development of the current plead language. Overall, we find that the modified rule language will provide for improved protection of water quality and also improve the organization of all the road-related Forest Practice Rules.”

Board Response:

The Board acknowledges the Department of Forestry and Fire Protection’s qualified support for adoption of the rule proposal with requested minor revisions.

Rule Text Edit: No

Comment L1-2: William E. Snyder, Deputy Director, California Department of Forestry and Fire Protection.

“**Page 4, line 8:** The following modification for the definition of deactivated road is proposed by the Department to provide greater clarity and to emphasize that erosion control measures on forest roads that are deactivated must be monitored and maintained over time.

895.1 Definitions

Deactivated Road means a logging road that is part of the permanent road network where measures have been implemented to prevent active use by logging trucks and standard production four-wheel drive highway vehicles, and where long-term erosion control measures and watercourse crossings will be monitored and maintained.”

Board Response:

The Board declined to adopt the Department’s proposed addition to the definition for “Deactivated Road.” The requested revision would incorporate an enforceable Forest Practice Rule standard into the definition of a particular road classification. The Board’s preference is to allow definitions to remain separate from enforceable standards specified elsewhere in the Rules.

Rule Text Edit: No

Comment L1-3: William E. Snyder, Deputy Director, California Department of

DRAFT "ROAD RULES" FSOR

Forestry and Fire Protection.

"Page 8, line 20: The following modification of the definition of waterbreak is proposed to provide improved clarity and remove confusion regarding required spacing for rolling dips. 14 CCR § 923.5 [943.5, 963.5] (g) states that rolling dip spacing is to be based on the logging road gradient grade, cross-slope gradient, and soil erosion hazard rating. Waterbreak spacing is specified in 14 CCR § 923.5 [943.5, 963.5] (f). It should be made clear that rolling dips are not included in the spacing requirements of 14 CCR § 923.5 [943.5, 963.5] (f).

895.1 Definitions

Waterbreak means a ditch, dike, ~~or dip,~~ or a combination thereof, constructed diagonally across logging roads, tractor roads and firebreaks so that water flow is effectively diverted therefrom. Waterbreaks are synonymous with waterbars."

Board Response:

The Board acknowledges the utility of the Department's proposed revision of the definition for the term "Waterbreak." However, this definition was not contained in the 45-day Notice Rule Text. The definition and the Department's proposed revision to it would therefore have to be published in an additional Notice of Rulemaking. The Board is bound by statute to a January 1 effective date for newly adopted Forest Practice Rules and prefers that the adopted rule proposal become effective January 1, 2014. An additional Notice of Rulemaking to address the "waterbreak" definition would put a January 1, 2014 effective date for the adopted Rule proposal out of reach. The Board accordingly declined to adopt this proposed revision. It remains possible the Board would consider this proposed definition modification at some point in the future.

Rule Text Edit: No

Comment L1-4: William E. Snyder, Deputy Director, California Department of Forestry and Fire Protection.

"Page 43, line 24: The following new sentence will provide guidance to Registered Professional Foresters, agency staff, and the public regarding rolling dip spacing.

923.5 [943.5, 963.5] (g) Erosion Control for Logging Roads and Landings

Where outsloping and rolling dips are used to control surface runoff, the dip in the logging road grade shall be sufficient to capture runoff from the logging road surface. The steepness of cross-slope gradient in conjunction with the logging road or landing gradient and the estimated soil erosion hazard rating shall be used to determine the rolling dip spacing in order to minimize soil erosion and sediment transport and to prevent significant sediment discharge. Guidance on rolling dip spacing may be found in the Board's Technical Rule Addendum Number 5."

Board Response:

The Board concurs with the Department's proposed reference to Technical Rule Addendum Number 5.

Rule Text Edit: Yes

Comment L1-5: William E. Snyder, Deputy Director, California Department of Forestry and Fire Protection.

DRAFT "ROAD RULES" FSOR

“Page 44, line 3: The following new sentence will provide guidance to Registered Professional Foresters, agency staff, and the public regarding energy dissipators.

923.5 [943.5, 963.5] (h) Erosion Control for Logging Roads and Landings

Drainage facilities and structures shall discharge into vegetation, woody debris, or rock wherever possible. Where erosion-resistant material is not present, slash, rock, or other energy dissipating material shall be installed below the drainage facility or drainage structure outlet as necessary to minimize soil erosion and sediment transport and to prevent significant sediment discharge. Guidance on energy dissipators for drainage structures may be found in the Board’s Technical Rule Addendum Number 5.”

Board Response:

The Board concurs with the Department’s proposed reference to Technical Rule Addendum Number 5.

Rule Text Edit: Yes

Comment L1-6: William E. Snyder, Deputy Director, California Department of Forestry and Fire Protection.

“Page 44, line 6: Changing “will” to “shall” is required for rule language consistency and adequate enforcement. Adding “including timing of implementation” is required to ensure that required treatments will be implemented on the ground when they are necessary and appropriate. For example, where rocking of road approaches is specified in the plan, it must be stated that this will occur prior to log hauling, not after this activity has occurred.

923.5 [943.5, 963.5] (i) Erosion Control for Logging Roads and Landings

Where logging road and landing surfaces, road approaches, inside ditches and drainage structures cannot be hydrologically disconnected, and where there is existing or the potential for significant sediment discharge, necessary and feasible treatments to prevent the discharge shall ~~will~~ be described in the plan, including timing of implementation.”

Board Response:

The Board concurs with the Department’s proposed revision of the word “will” to “shall” for the sake of consistency with the existing Forest Practice Rules.

However, the Board declined to adopt the second proposed revision regarding timing of implementation. The Board considers this latter proposed revision to be substantial enough to warrant additional publication of a subsequent Notice of Rulemaking. The Board is bound by statute to a January 1 effective date for newly adopted Forest Practice Rules and prefers that the adopted rule proposal become effective January 1, 2014. An additional Notice of Rulemaking to address “timing of implementation” would likely put a January 1, 2014 effective date for the adopted Rule proposal out of reach. The Board accordingly chose not to adopt this proposed revision. It remains possible the Board would consider this proposed Rule modification at some point in the future.

Rule Text Edit: Yes - Partial Edit

Comment L1-7: William E. Snyder, Deputy Director, California Department of Forestry and Fire Protection.

“Page 49, line 5: The following changes are required to clarify that log hauling and use of other heavy equipment is limited on both private roads and landings and public roads

DRAFT "ROAD RULES" FSOR

and landings to those with a stable operating surface that can be maintained during the extended wet weather period. For example, we do not want to exclude this limitation for log hauling on federal coop roads during the extended wet weather period. Even though CAL FIRE does not regulate timber operations on federal coop roads, CAL FIRE must ensure that the cumulative watershed effects evaluation considers project related impacts even if those impacts are on federal land. This timing restriction provides greater assurance in this regard.

923.6 [943.6, 963.6] (c) Use of Logging Roads and Landings

During the extended wet weather period, ~~Log hauling or other heavy equipment uses shall be limited to on logging roads and landings that exhibit~~ shall only occur if a stable operating surface can be maintained in conformance with (b) above. Routine use of logging roads and landings shall not occur when equipment cannot operate under its own power.”

Board Response:

The Board understands the intent behind the Department’s proposed revision of this adopted Rule subsection. However, the Board considers the proposed Rule language modifications substantial enough to warrant additional publication of a subsequent Notice of Rulemaking. The Board is bound by statute to a January 1 effective date for newly adopted Forest Practice Rules and prefers that the adopted rule proposal become effective January 1, 2014. An additional Notice of Rulemaking to address the proposed revisions would likely put a January 1, 2014 effective date for the adopted Rule proposal out of reach. The Board accordingly chose not to adopt the proposed revisions. It remains possible the Board would consider this proposed Rule modification at some point in the future.

Rule Text Edit: No

Comment L1-8: William E. Snyder, Deputy Director, California Department of Forestry and Fire Protection.

“**Page 60, line 2:** The following change is suggested to provide clarity regarding when rock used to stabilize the outlets of crossings is required, and is consistent with the terminology being proposed for the revised version of the *Handbook for Forest and Ranch Roads*, currently under production by Pacific Watershed Associates.

923.9 [943.9, 963.9] (I) Watercourse Crossings

Any necessary protective structures associated with logging road watercourse crossings such as wing walls, rock armored headwalls, and downspouts shall be adequately sized to transmit runoff, minimize erosion of crossing fills, and prevent significant sediment discharge. Rock used to stabilize the outlets of crossings, including rock ford and rock armored fill crossings, shall be adequately sized to resist mobilization, with the range of required rock dimensions described in the plan.”

Board Response:

Refer to Response to Comment L1-7.

Rule Text Edit: No

Comment L1-9: William E. Snyder, Deputy Director, California Department of Forestry and Fire Protection.

DRAFT "ROAD RULES" FSOR

“Page 60, line 13: “During and upon completion of timber operations” is struck since removal of this clause improves CAL FIRE’s ability to enforce this provision at all times during the life of a plan, including the prescribed erosion control maintenance period. Additionally, the reference to Technical Rule Addendum No. 5 is suggested to provide guidance to Registered Professional Foresters, agency staff, and the public regarding hydrologic disconnection.

923.9 [943.9, 963.9] (m) (2) Watercourse Crossings

Consistent with 14 CCR § 923.5(a)-(i) [943.5(a)-(i), 963.5(a)-(i)], drainage facilities and ditch drains shall be installed adjacent to logging road watercourse crossings, as needed, to hydrologically disconnect to the extent feasible the logging road approach from the crossing, to minimize soil erosion and sediment transport, and to prevent significant sediment discharge ~~during and upon completion of timber operations.~~
Guidance on hydrologic disconnection may be found in the Board’s Technical Rule Addendum Number 5.”

Board Response:

The Board concurs with the Department’s proposed reference to Technical Rule Addendum Number 5.

However, the Board declined to adopt the proposed deletion of “...during and upon completion of timber operations” as it would alter the application of this adopted Rule standard. The Board considers such a proposed revision to be substantial enough to warrant additional publication of a subsequent Notice of Rulemaking. The Board is bound by statute to a January 1 effective date for newly adopted Forest Practice Rules and prefers that the adopted rule proposal become effective January 1, 2014. An additional Notice of Rulemaking to address this proposed revision would likely put a January 1, 2014 effective date for the adopted Rule proposal out of reach. The Board accordingly chose not to adopt this proposed revision. It remains possible the Board would consider this proposed Rule modification at some point in the future.

Rule Text Edit: Yes – Partial Edit

Comment L1-10: William E. Snyder, Deputy Director, California Department of Forestry and Fire Protection.

“Page 60, line 25: The following change is suggested to provide guidance to Registered Professional Foresters, agency staff, and the public regarding reducing the potential of failure at high risk watercourse crossings.

923.9 [943.9, 963.9] (o) Watercourse Crossings

Where crossing fills over culverts are large, or where logging road watercourse crossing drainage structures and erosion control features historically have a high failure rate, such drainage structures and erosion control features shall be oversized, designed for low maintenance, reinforced, or removed before the completion of timber operations or as specified in the plan. Guidance on reducing the potential of failure at high risk watercourse crossings may be found in the Board’s Technical Rule Addendum Number 5.”

Board Response:

The Board concurs with the Department’s proposed reference to Technical Rule Addendum Number 5.

Rule Text Edit: Yes

Comment L1-11: William E. Snyder, Deputy Director, California Department of Forestry and Fire Protection.

“Page 58, line 6: The following new section is proposed to provide improved clarity and guidance to Registered Professional Foresters, agency staff, and the public regarding when existing watercourse crossings, particularly culverts, are adequate and do not require replacement. Note that this is modified language that was in earlier road rule packages and denoted as 14 CCR § 923.16 [943.16, 963.16] (f), as well as existing rule language, 14 CCR §§ 923.4 [943.4, 963.4] (f) and 923.4 [943.4, 963.4] (n).

923.9 [943.9, 963.9] (c) Watercourse Crossings

Existing watercourse crossing drainage structures and associated necessary protective structures shall be maintained, repaired, and replaced as needed to minimize crossing blockage and to provide for adequate capacity. Properly functioning watercourse crossings on roads that existed before timber operations need not be removed, but must be constructed or maintained to prevent diversion of overflow down the road should the drainage structure become plugged.”

Board Response:

The Board acknowledges the utility of the Department’s proposed inclusion of this rule language from previous iterations of the “Road Rules” proposal. However, this language was not contained in the 45-day Notice Rule Text. It would therefore have to be published in an additional Notice of Rulemaking. The Board is bound by statute to a January 1 effective date for newly adopted Forest Practice Rules and prefers that the adopted rule proposal become effective January 1, 2014. An additional Notice of Rulemaking to consider inclusion of the proposed Rule language would put a January 1, 2014 effective date for the adopted Rule proposal out of reach. The Board accordingly declined to adopt this proposed language. It remains possible the Board would consider this proposed definition modification at some point in the future.

Rule Text Edit: No

Comment L2-1: Sandra Morey, Deputy Director, California Department of Fish and Wildlife (CDFW).

“Upon review of the August 23, 2013 draft of the Road Rules, 2013, CDFW provides the following comments and recommendations:

1. The name of the Department of Fish and Game (DFG) was changed to CDFW effective January 1, 2013. References to Fish and Game Code are still appropriate.
 - Change all references to DFG in the plead to CDFW.”

Board Response:

The Board concurs with the CDFW’s proposed revision of the rule text and has incorporated it throughout.

Rule Text Edit: Yes

Comment L2-2: Sandra Morey, Deputy Director, California Department of Fish and

DRAFT "ROAD RULES" FSOR

Wildlife (CDFW).

“Upon review of the August 23, 2013 draft of the Road Rules, 2013, CDFW provides the following comments and recommendations:

2. **CCR 895.1 Definitions** (page 6, line 1). “Permanent Road Network” is defined to encompass temporary roads, while the definition of “Temporary Road” further includes abandoned roads. CCR 923.8 states that “All logging roads and landings that are proposed to be removed from the permanent road network shall be abandoned.”
 - To clarify language that abandoned roads are not included by default in the permanent road network definition, add a sentence to the Temporary Road definition that states, “Abandoned roads are not part of the permanent road network.””

Board Response:

The Board concurs with CDFW’s suggestion for improved Rule clarity. However, the Board chose to include the proposed language addition in the definition of “Permanent Road Network” rather than the definition of “Temporary Road.”

Rule Text Edit: Yes

Comment L2-3: Sandra Morey, Deputy Director, California Department of Fish and Wildlife (CDFW).

“Upon review of the August 23, 2013 draft of the Road Rules, 2013, CDFW provides the following comments and recommendations:

3. **CCR 916.9(l)(1)** (page 15, line 8). This is the only location in Road Rules, 2013 and in the Forest Practice Rules where there is reference to “low antecedent soil wetness.” Without a definition, there has been confusion during some pre-harvest inspections as to what this term means.
 - Replace the term “low antecedent soil wetness” with “dry rainless periods where soils are not saturated.””

Board Response:

The Board understands the concern raised by CDFW. However, it chose not to adopt the proposed language revision. The existing descriptor “low antecedent soil wetness” has been in the Forest Practice Rules since the late 1990’s. Alteration of the term may not be appropriate without publication of an additional Notice of Rulemaking. The Board is bound by statute to a January 1 effective date for newly adopted Forest Practice Rules and prefers that the adopted rule proposal become effective January 1, 2014. An additional Notice of Rulemaking to consider inclusion of the proposed revision would put a January 1, 2014 effective date for the adopted Rule proposal out of reach. The Board accordingly declined to adopt the proposed language modification. It remains possible the Board would reconsider revision at some point in the future.

Rule Text Edit: No

Comment L2-4: Sandra Morey, Deputy Director, California Department of Fish and

DRAFT "ROAD RULES" FSOR

Wildlife (CDFW).

“Upon review of the August 23, 2013 draft of the Road Rules, 2013, CDFW provides the following comments and recommendations:

4. **CCR 923(b)(1)** (page 19, line 20) states that:

“...(b) Such planning, construction, reconstruction, use, maintenance, removal, abandonment, and deactivation shall occur in a manner that considers safety and avoids or substantially lessens significant adverse impacts to, among other things: **(1)** Fish and wildlife habitat and listed species of fish and wildlife.” Omission of plants is not consistent with the purview and mission of CDFW.

- Change the intent language to include plants, such that it reads, “Fish, wildlife, and plant habitat and listed species of fish, wildlife, and plants.”

Board Response:

The Board understands the concern raised by CDFW and acknowledges that Fish and Game Code Section 711.2 includes “plants” in its description of the term “wildlife.” However, it chose not to adopt the proposed language revision. The Board noted that there are likely other portions of the existing Forest Practice Rules in which “plants” and “plant habitat” are likewise omitted from the descriptor of “fish and wildlife.” Accordingly, the Board has suggested a comprehensive review of the Forest Practice Rules to determine the scope and number of such omissions. At such time as this review has been completed, the Board could consider a comprehensive rule proposal to remedy this concern.

Rule Text Edit: No

Comment L2-5: Sandra Morey, Deputy Director, California Department of Fish and Wildlife (CDFW).

“Thank you for the opportunity to participate in the Road Rules, 2013 rulemaking process in the Forest Practice Committee and during this public comment period. CDFW believes this rule set will benefit the Department’s trustee fish, wildlife and plant resources by establishing best management practices for roads and crossings and mitigating significant sources of sediment to watercourses.”

Board Response:

The Board acknowledges CDFW’s qualified support for adoption of the rule proposal with requested minor revisions.

Rule Text Edit: No

Comment L3-1: Angela Wilson, Senior Engineering Geologist, Central Valley Regional Water Quality Control Board.

“The Central Valley Regional Water Quality Control Board (Central Valley Water Board) appreciates the opportunity to comment on the "Road Rules, 2013" (Road Rules) rule package. The Road Rules package represents over a decade's worth of work to reorganize and improve road-related Forest Practice Rules'. The Central Valley Water Board considers the Road Rules package a significant step forward in mitigating water quality impacts associated with timber harvest activities. The rule package accomplishes this task by incorporating the concept of hydrological connectivity into the package, by adopting a stringent performance-based standard for preventing water quality impacts

DRAFT "ROAD RULES" FSOR

from roads, and by requiring a systematic approach to evaluating and mitigating road-related water quality impacts. As such, Central Valley Water Board is strongly supportive of passing this rule package.”

Board Response:

The Board acknowledges the Central Valley Regional Water Quality Control Board’s support for the noticed Road Rules, 2013 rule package.

Rule Text Edit: No

Comment L3-2: Angela Wilson, Senior Engineering Geologist, Central Valley Regional Water Quality Control Board.

“The Road Rules package is largely a performance-based rule package. The performance-based approach is appropriate given the inability to account for all conceivable situations with prescriptive rule standards. However, a reliance on performance-based standards means that sound professional judgment and technical understanding must be exercised when determining if the performance standards have been met or not. The Central Valley Water Board is willing to help CALFIRE with the interpretation and enforcement of performance-based standards related to water quality.”

Board Response:

The Board acknowledges and appreciates the Central Valley Regional Water Quality Control Board’s willingness to assist the Department with the interpretation and enforcement of the performance-based standards in the noticed Road Rules, 2013 rule package.

Rule Text Edit: No

Comment L3-3: Angela Wilson, Senior Engineering Geologist, Central Valley Regional Water Quality Control Board.

“Performance-based standards can be left open to interpretation unless there is adequate education and guidance to registered professional foresters (RPF), licensed timber operators (LTO), and regulators on how to interpret these standards. In particular, the most notable of these proposed performance standards is related to the prevention of "significant sediment discharge." In the Road Rules:

"Significant Sediment Discharge" means soil erosion that is currently, or may be in the future, discharged to watercourses or lakes in quantities that violate Water Quality Requirements² or result in significant individual or cumulative adverse impacts to the beneficial uses of water. One indicator of a Significant Sediment Discharge is a visible increase in turbidity to receiving Class I, II, III, or IV waters.

This performance standard is stringent, and should be interpreted as such. For instance, the numeric water quality objective for turbidity in the Central Valley Water Board's Basin Plan is generally that a discharge will not increase receiving water turbidity by 20 percent. A single rill or rut on a road approach that delivers to a small to moderate sized watercourse can generally result in visible turbidity increases for short durations, and therefore can result in a "Significant Sediment Discharge". These kinds of cause-and-effect relationships must be understood by regulators and the regulated community in order to effectively implement the Road Rules package.

DRAFT "ROAD RULES" FSOR

Technical Rule Addendum No. 5 is a good initial starting point for educating regulators and the regulated community on elements of the Road Rule package (i.e., hydrological disconnection; diversion potential). However, targeted education is necessary to ensure overall rule effectiveness. For instance, proposed section 923.9 [943.9, 963.9] (I) requires that "rock used to stabilize the outlets of crossing shall be adequately sized to resist mobilization..." To meet this performance standard, the practitioner is required to consider the driving hydraulic forces of streamflow as well as the properties of the resisting rock to adequately size the rock. Guidance in the form of a "rule tool" (i.e., rock sizing worksheet) could be created to help practitioners to meet the performance standard. Targeted education for LTOs is also an important component, as LTOs will often be responsible for meeting the performance standards."

Board Response:

The Board acknowledges that the definition of significant sediment discharge is a rigorous ("high bar") standard that was developed following considerable discussion from the regulated public and the reviewing agencies in Forest Practice Committee meetings. The Board recognizes that Water Board policies specify that there are allowable zones for dilution within which higher percentages than 20% above naturally occurring background levels can be tolerated in many situations, making the definition of significant sediment source workable in field situations.

The Board agrees with the Central Valley Regional Water Quality Control Board that holding training workshops for LTOs, RPFs, and the regulated public is critical to ensure successful implementation of the rule package, and will work with the Department to ensure that they occur in the first part of 2014. These workshops will address the issue of how to adequately size rock used to stabilize watercourse crossing outlets.

Rule Text Edit: No

Comment L3-4: Angela Wilson, Senior Engineering Geologist, Central Valley Regional Water Quality Control Board.

"The biggest uncertainty regarding the Road Rules package is if there will be a difference in rule effectiveness between watersheds with listed anadromous salmonids (ASP) and watersheds without listed salmonids. This uncertainty exists because the Road Rules has more restrictive rule language for ASP watersheds than for non-ASP watersheds. Theoretically, performance for the two areas should be similar due to the overarching performance standard of preventing significant sediment discharge. However, over time one could determine if the Road Rules have regional differences in preventing water quality impacts and whether additional rule language is needed in the non-ASP areas to achieve the performance standard of preventing significant sediment discharge. The Central Valley Water Board considers these important questions to answer through future effectiveness monitoring through the newly created Effectiveness Monitoring Committee."

Board Response:

The Board acknowledges that there are higher road rule requirements mandated by the Road Rules, 2013 rule package for the watersheds with listed anadromous salmonids, and contiguous to any watershed with listed anadromous salmonids. These road-related requirements are consistent with those adopted by the Board in October 2009, when the Anadromous Salmonid Protection (ASP) Rule Package was adopted. The ASP Rule

DRAFT "ROAD RULES" FSOR

Package was based on the results of a review and evaluation of credible scientific information. Specifically, the adopted ASP Rules were found to be: (1) consistent with the science literature review and testimony from scientists and technical experts in the fields of watershed science, aquatic ecology, and fisheries biology; and (2) appropriate permanent rules for the protection of State and federally listed anadromous salmonids.

The Board agrees with the Central Valley Regional Water Quality Control Board that effectiveness monitoring to be conducted as part of the newly created Effectiveness Monitoring Committee is expected to allow for adaptive management and modification of rule requirements if needed through future Board actions, both for ASP and non-ASP areas.

Rule Text Edit: No

Comment L3-5: Angela Wilson, Senior Engineering Geologist, Central Valley Regional Water Quality Control Board.

"1.The Central Valley Water Board supports revisions suggested by CALFIRE staff regarding the insertion of new rule language:

923.9 [943.9, 963.9] (c) Watercourse Crossings

Existing watercourse crossing drainage structures and associated necessary protective structures shall be maintained, repaired and replaced as needed to minimize crossing blockage and to provide for adequate capacity. Properly functioning watercourse crossings on roads that existed before timber operations need not be removed, but must be constructed or maintained to prevent diversion of overflow down the road should the drainage structure become plugged.

This will ensure that culverts undersized for the 100-year flood flow will be assessed for diversion potential, and necessary mitigations will be put into place to avoid crossing diversion."

Board Response:

The Board did not adopt this comment recommendation. The Board finds that the adopted rule requirements included as part of the Road Rules, 2013 rule package are sufficient to address this suggested rule insertion. Specifically, 14 CCR § 923.9(a) [943.9(a), 963.9(a)] requires that the planning for and use of logging road watercourse crossings shall include the evaluation and documentation of significant existing and potential erosion sites consistent with 14 CCR § 923.1(e) [943.1(e), 963.1(e)]. This means that watercourse crossings that are inadequately functioning are a significant potential erosion site, requiring feasible treatments to be included in the plan. Conversely, properly functioning watercourse crossings are not potential erosion sites and do not require feasible treatments to be included in the plan. Site-specific review of the plan area will allow the reviewing agencies to determine if existing watercourse crossings are properly functioning.

Rule Text Edit: No

Comment L3-6: Angela Wilson, Senior Engineering Geologist, Central Valley Regional Water Quality Control Board.

DRAFT "ROAD RULES" FSOR

"2. The Central Valley Water Board believes more explicit language for **923.9 [943.9, 963.9] (l)** to link the design of crossing protective structures (e.g. rock slope protection) to the 100-year flood flow is necessary. We suggest the following language:

Any necessary protective structures associated with logging road watercourse crossings such as wing walls, rock armored headwalls, and downspouts shall be adequately sized to transmit runoff for the 100-year flood flow, minimize erosion of crossing fills, and prevent significant sediment discharge. Rock used to stabilize the outlets of crossings shall be adequately sized to resist mobilization from the 100-year flood flow, with the range of required rock dimensions described in the plan."

Board Response:

The Board did not adopt this comment recommendation. The Board finds that the adopted rule requirements included as part of the Road Rules, 2013 rule package are sufficient to address these suggested rule insertions. Specifically, 14 CCR § 923.9(f) [943.9(f), 963.9(f)] requires that all permanent watercourse crossings that are constructed or reconstructed shall accommodate the estimated 100-year flood flow, including debris and sediment loads. Necessary protective structures associated with watercourse crossings must by inference be designed to handle similar sized flows, and explicitly stating the 100-year flow requirement in this rule section is unnecessary.

Rule Text Edit: No

Comment L3-7: Angela Wilson, Senior Engineering Geologist, Central Valley Regional Water Quality Control Board.

"3. Section 923.7 [943.7, 963.7] (l) (3) (iv) states that:

The approach velocity (water moving through the screen) shall not exceed 0.33 feet/second.

It is unlikely that the drafting operator will be able to measure velocity to the nearest $1/100^{\text{th}}$ ft s⁻¹. We suggest using one significant figure (i.e., 0.3 ft s⁻¹).

Board Response:

The Board adopted the suggested change from the Central Valley Regional Water Quality Control Board to ensure clarity and enforceability of the regulations.

Rule Text Edit: Yes

Comment L3-8: Angela Wilson, Senior Engineering Geologist, Central Valley Regional Water Quality Control Board.

"4. Section 923.9 [943.9, 963.9] (t) (2) states:

Bare soil on fills or sidecast associated with logging road watercourse crossings that are created or exposed by timber operations shall be stabilized to the extent necessary to minimize soil erosion and sediment transport and to prevent significant sediment discharge. Erosion control measures for the traveled surface of roads and landing surfaces are specified in 14 CCR §§ 923.5 [943.5, 963.5] and 923.7 [943.7, 963.7]. Sites to be stabilized include, but are not limited to, sidecast or fill exceeding 20 feet in slope distance from the outside edge of the road surface at the logging road watercourse

DRAFT "ROAD RULES" FSOR

crossing.

This section sends a contradictory message to RPF and LTOs, and will likely set up a LTO for a violation. Bare soil on steep, newly-placed fill or sidecast, situated directly over a watercourse (i.e., a watercourse crossing fill), presents an inherently high risk to water quality, and therefore represents a "Significant Sediment Discharge". We propose incorporating the standards included in 923.9 (t) (4) (i, ii, iii) into 923.9 [943.9, 963.9] (t) (2)."

Board Response:

The Board did not adopt this comment recommendation. The Board finds that the adopted rule requirements included as part of the Road Rules, 2013 rule package are sufficient to address these suggested rule insertions. 14 CCR Section 923.9 [943.9, 963.9] (t) (2) specifies that "Bare soil on fills or sidecast associated with logging road watercourse crossings that are created or exposed by timber operations shall be stabilized to the extent necessary to minimize soil erosion and sediment transport and to prevent significant sediment discharge." This is a stringent standard that is not restricted to the installing stabilization measures on fill slopes exceeding 20 feet in slope distance from the outside edge of the road surface at watercourse crossings. The plan proponent must stabilize any fill slope area that has the potential to produce a significant sediment discharge.

Rule Text Edit: No

Comment L3-9: Angela Wilson, Senior Engineering Geologist, Central Valley Regional Water Quality Control Board.

"The Central Valley Water Board is strongly supportive of the "Road Rules, 2013" package. As mentioned previously, this rule package is the culmination of over a decade of work and numerous iterations. Passing this rule package sends a strong message that the Board of Forestry and Fire Protection is committed to upholding strong standards for water quality protection."

Board Response:

See response to Comment L3-1.

Rule Text Edit: No

Comment L4-1: William R. Short, Supervising Engineering Geologist, California Geological Survey (CGS).

"The California Geological Survey (CGS) has reviewed the proposed revisions to the Forest Practice Rules contained in Title 14 California Code of Regulations, titled "*Road Rules, 2013*". These proposed rule revisions are presented in the 45-day notice circulated by the Board of Forestry and Fire Protection (Board) on August 23, 2013. The "*Road Rules, 2013*" package is the result of nearly two years of revisions to the "*Road Rules, 2011*" package that was circulated by the Board in a December 2011 90-day notice. Further, the rule package is the result of Board efforts since at least 1999 to address California logging road associated rules.

CGS believes that the proposed rule package moves the planning, construction, and maintenance of logging roads, landings, and watercourse crossings towards a more state-of-the-art practice in California. Significantly, many of these proposed rules rely on

DRAFT "ROAD RULES" FSOR

performance-based rather than prescription-based standards. Additionally, the presentation of the road related rules in a comprehensive and logical set of sections within the Forest Practice Rules provides a useful reorganization and clarification of the applicable rules. CGS further believes the addition of Technical Rule Addendum 5 will provide helpful guidance on effective road management practices.”

Board Response:

The Board acknowledges CGS’s support for adoption of the rule proposal.

Rule Text Edit: No

Comment L4-2: William R. Short, Supervising Engineering Geologist, California Geological Survey (CGS).

“The proposed rule package continues to set different standards for the planning, construction, and maintenance of roads, landings, and watercourse crossings within watersheds with listed anadromous salmonids (ASP watersheds) than the standards for those watersheds outside the zone of anadromy. Assuming that these rules are adopted, CGS trusts that monitoring and assessment of rule effectiveness will provide the information necessary for the modification of some of the current differing standards so that they can be replaced with consistent statewide standards.”

Board Response:

The Board acknowledges the comment. The adopted rule proposal does, in certain instances, incorporate existing ASP rule provisions on a statewide basis. This may well be the first step toward standardization of road and watercourse rules. However, as CGS acknowledges, such an action would have to be compelled by the results of comprehensive and lengthy rule effectiveness monitoring.

Rule Text Edit: No

Comment L4-3: William R. Short, Supervising Engineering Geologist, California Geological Survey (CGS).

“Recognizing the difference in rules noted above, in areas outside ASP watersheds a Winter Operating Plan is not required if a limited series of measures are specified in the plan. CGS recommends that the measures be augmented with regard to tractor use and road use during the winter period to provide more clarity on practices proposed. These recommendations are presented below in bold and double underline text (single underline and strikethrough text are the proposed modifications already in the rule package).

14 CCR § 914.7 [934.7, 954.7]. Timber Operations, Winter Period.

(c) In lieu of a winter period operating plan, the RPF can specify the following measures in the THP:

(1) Tractor yarding or the use of tractors for constructing **or reconstructing logging roads, landings, watercourse crossings,** layouts, firebreaks or other tractor roads shall be done only during dry, rainless periods and shall not be conducted on saturated soils conditions that may produce **significant sediment discharge.** ~~sediment in quantities sufficient to cause a visible increase in turbidity of downstream waters in receiving Class I, II, III or IV waters or that violate Water Quality Requirements.~~

DRAFT "ROAD RULES" FSOR

(2) Erosion control structures shall be installed on all constructed skid trails and tractor roads prior to the end of the day if the U.S. Weather Service forecast is a "chance" (30% or more) of rain before the next day, and prior to weekend or other shutdown periods.

(3) Site specific mitigation measures needed to comply with 14 CCR 914 [934, 954] for operations within the WLPZ and unstable areas during the winter period.

(4) Mitigation measures needed to comply with 14 CCR 923.6 for road use.

Board Response:

Refer to Response to Comment L1-7.

Rule Text Edit: No

Comment L4-4: William R. Short, Supervising Engineering Geologist, California Geological Survey (CGS).

"The proposed rule package limits road reconstruction in watercourses, WLPZs, and wet areas. However, these practices are not limited in Equipment Limitation Zones (ELZs) of Class III watercourses (Class III ELZs are defined in the rules as ranging from 0 to 50 feet depending upon site conditions). Since road reconstruction by definition involves activities more intensive than road maintenance or rehabilitation to make the road useable for hauling forest products, and since ELZs by definition are areas where equipment operations are limited for the protection of water quality, CGS believes that restrictions on road reconstruction in Class III ELZs is consistent with the overall goals of the proposed rule package. CGS recommends that Class III ELZ restrictions be inserted into the two rule sections as shown below.

14 CCR § 923.1[943.1, 963.1]. Planning for Logging Roads and Landings.

(c) No logging roads or landings shall be planned for reconstruction (i) within Class I, II, III, or IV watercourses or lakes, (ii) within a WLPZ or Class III ELZ, or (iii) in marshes, wet meadows, and other wet areas, except as follows:

(1) At existing logging road watercourse crossings.

(2) At logging road watercourse crossings to be constructed or reconstructed that are approved as part of the Fish and Game Code process (F&GC 1600 et seq.)

(3) At logging road watercourse crossings of Class III watercourses that are dry at the time of use.

14 CCR § 923.4 [943.4, 963.4]. Construction and Reconstruction for Logging Roads and Landings Road Maintenance.

(c) No logging roads or landings shall be reconstructed (i) within Class I, II, III, or IV watercourses or lakes, (ii) within a WLPZ or Class III ELZ, or (iii) in marshes, wet meadows, and other wet areas, except as follows:

(1) At existing logging road watercourse crossings.

DRAFT "ROAD RULES" FSOR

(2) At logging road watercourse crossings to be constructed or reconstructed that are approved as part of the Fish and Game Code process (F&GC 1600 et seq.)

(3) At logging road watercourse crossings of Class III watercourses that are dry at the time of use.

Board Response:

Refer to Response to Comment L1-7.

Rule Text Edit: No

Comment L4-5: William R. Short, Supervising Engineering Geologist, California Geological Survey (CGS).

“The proposed rule package includes a new subset of “Temporary Road” that is defined as a “Deactivated Road”. CGS recommends that this new category of road be specifically included in the mapping requirements rather than lumped in the broader category of Temporary Road. Specifically identifying Deactivated Roads on plan maps will provide clarity on the overall road network, particularly since Deactivated Roads may contain watercourse crossing structures (e.g. culverts) that require ongoing maintenance and monitoring to maintain their integrity. CGS’s recommended addition is shown below.

14 CCR § 1034. [1051.1, 1090.5, 1092.09] Contents of Plan.

The following logging road- and landing related features shall be shown on a map of the appropriate type and scale as described in subsection (l) above:

(4) Location of all roads to be used for, or potentially impacted by, timber operations. This shall include:

(A) The classification of all roads as permanent, seasonal, temporary, **deactivated**, or proposed for abandonment.

Board Response:

The Board concurs with the California Geological Survey’s proposed addition to the adopted rule proposal and agrees it will result in improved clarity.

Rule Text Edit: Yes

Comment L5-1: Jim Burke, Senior Engineering Geologist, South Timber Unit, North Coast Regional Water Quality Control Board.

“North Coast Regional Water Board staff plan to attend the Board of Forestry meeting next Wednesday (10/9/13) when the Board considers proposed rule changes, specifically the Road Rules and revisions to the Class II-L identification methods. Today (10/5/13) we submitted formal comments regarding the proposed revisions to the Class II-L watercourses. In general, the Regional Water Board supports the proposed Road Rules, with the exception of what we believe was an inadvertent omission of what we consider important rule language (916.9(o)).”

Board Response:

The Board acknowledges the North Coast Regional Water Quality Control Board’s qualified support for adoption of the rule proposal with requested minor revisions.

DRAFT "ROAD RULES" FSOR

Rule Text Edit: No

Comment L5-2: Jim Burke, Senior Engineering Geologist, South Timber Unit, North Coast Regional Water Quality Control Board.

“As we discussed on the telephone on Thursday, the proposed Road Rules delete 916.9(o), and creates 923.1(e), which is closely analogous to 916.9(o), but limits the scope of the RPFs evaluation to “logging roads, landings, and watercourse crossings in the logging area.” As such, the evaluation may miss erosion sites that could impact the beneficial uses of water that are in the logging area, but are not located on logging roads, landings, and watercourse crossings.

We recommend that 916.9(o) be retained.

Existing rule:

916.9(o) (o) Erosion Site identification and remedies- As part of the plan, the RPF shall:

(1) identify sites in the logging area where erosion and sediment production are ongoing during any period of the year and assess them to determine which sites pose significant risks to the beneficial uses of water.

(2) Assess those sites identified in 14 CCR § 916.9 [936.9, 956.9], subsection (o)(1) to determine whether feasible remedies exist.

(3) For sites that pose significant risks to the beneficial uses of water and where feasible remedies exist, the plan shall propose appropriate treatment.

Proposed rule:

923.1(e) As part of the planning and use of logging roads, landings, and watercourse crossings in the logging area, the RPF or supervised designee shall: (i) locate and map significant existing and potential erosion sites and (ii) specify feasible treatments to mitigate significant adverse impacts from the road or landing.”

Board Response:

The Board acknowledges the North Coast Regional Water Quality Control Board’s concern regarding adopted rule Section 916.9(o). However, in the course of considering this comment during the public hearing, the Board noted existing rule Sections 916.4 [936.4, 956.4] (a)(1) would remain applicable to all proposed harvesting plan submissions and are responsive to the identified concern. Sections 916.4 [936.4, 956.4](a)(1) are applicable in all Forest Districts and state as follows:

916.4, 936.4, 956.4 Watercourse and Lake Protection [All Districts]

(a) The RPF or supervised designee shall conduct a field examination of all lakes and watercourses and shall map all lakes and watercourses which contain or conduct Class I, II, III or IV waters.

(1) As part of this field examination, **the RPF or supervised designee shall evaluate areas near, and areas with the potential to directly impact, watercourses and lakes for sensitive conditions including, but not limited to, existing and proposed roads, skidtrails and landings, unstable and erodible watercourse banks, unstable upslope areas, debris, jam potential, inadequate flow capacity, changeable channels, overflow channels, flood prone areas, and riparian zones wherein the values set forth in 14 CCR §§ 916.4(b) [936.4(b), 956.4(b)] are impaired.** The RPF shall consider these conditions, and those measures needed to maintain, and restore to

DRAFT "ROAD RULES" FSOR

the extent feasible, the functions set forth in 14 CCR §§ 916.4(b) [936.4(b), 956.4(b)], when proposing WLPZ widths and protection measures. The plan shall identify such conditions, including where they may interact with proposed timber operations, that individually or cumulatively significantly and adversely affect the beneficial uses of water, and shall describe measures to protect and restore to the extent feasible, the beneficial uses of water. In proposing, reviewing, and approving such measures, preference shall be given to measures that are on-site, or to offsite measures where sites are located to maximize the benefits to the impacted portion of a watercourse or lake. (Emphasis added)

The site evaluation specified in these existing rule sections and highlighted in bold and underline font above includes a comprehensive list of all the possible conditions that could adversely impact the beneficial uses of water. Additionally, the Board chose to specifically call out an erosion site evaluation for roads, landings, and watercourse crossings in newly adopted rule Section 923.1(e). The Board believes the combination of the existing and newly adopted rule Sections should satisfy the concerns raised by the North Coast Regional Water Quality Control Board.

Rule Text Edit: No

Comment L6-1: Mitchell A. Hunt, RPF #2353.

"Proposed definition (895.1; Page 7) reads:

Seasonal Road means a logging road that is part of the permanent road network that is not designed for year-round use. These roads have a surface that is suitable for maintaining a stable operating surface during the "season of use."

As it reads "season of use" is not recognized as a standard phrase or a recognized period of time, thus the intent does not seem clear. Should the word "season" be revised to read "period", with the intent that regardless of the road classification, surface material or time of year, the road has to have a "stable operating surface" during operations."

Board Response:

The Board adopted the suggested change to ensure clarity and enforceability of the regulations.

Rule Text Edit: Yes

Comment L6-2: Mitchell A. Hunt, RPF #2353.

"Page 16: **916.9 (n)(1)(new C)** Any other area of disturbed soil that threatens to discharge sediment into waters "in amounts deleterious" to the quality and beneficial uses of water.

The use of a different standard other than "**Significant Sediment Discharge**" that is undefined adds confusion down the road (during plan review); Consider changing to read: "Any other area of disturbed soil that threatens to discharge sediment into waters in amounts that create a **Significant Sediment Discharge**." Also, the (C) reference no longer appears pertinent as there no longer appears to be an (A) or (B)."

Board Response:

DRAFT "ROAD RULES" FSOR

The Board adopted the suggested change, with a slight wording modification, to ensure clarity and enforceability of the regulations, and for consistency with other sections of the Road Rules, 2013 rule package.

Rule Text Edit: Yes

Comment L6-3: Mitchell A. Hunt, RPF #2353.

"Page 67: **1034(x)(4)(C)** "Appurtenant roads" that provide access to rock pits and water drafting sites, and the location of water drafting sites.

By definition "Appurtenant roads" are those roads used for log hauling, which would not necessarily provide access to rock pits and water drafting sites (away from the "Harvest Area"). The definition of "Logging road" seems to fit better here as that definition includes "other forest products" (which rock and water could be construed) and is under the guidance of 1034(x)(4) above that narrows the mapping requirement to roads used for "timber operations" (of the proposed/approved project).

Definitions for Reference:

Appurtenant Road means a logging road under the ownership or control of the timber owner, timberland owner, timber operator, or plan submitter that will be used for log hauling.

Logging Road means a road other than a public road used by trucks going to and from landings to transport logs and other forest products."

Board Response:

The Board adopted the suggested change to ensure clarity of the regulations, and for consistency with other sections of the Road Rules, 2013 rule package.

Rule Text Edit: Yes

Comment L6-4: Mitchell A. Hunt, RPF #2353.

"**923.2(a)(4)(p28) NEW FPR "Design" Text reads:** Be outsloped where feasible and drained with waterbreaks or rolling dips in conformance with other applicable Forest Practice Rules.

New Text requires new roads "designed" to be outsloped (where feasible) and then drained with waterbreaks, rolling dips or both. By definition, outsloping and rolling dips are design features that are a permanent part of the prism, where waterbreaks are installed post hauling operations. The intent here is more manageable (clear) if the "or" was either an "and/or" or just an "and", for "literal interpretation" (and/or seems best). It is common to outslope and rolling dip a seasonal road, but also add a few waterbars on segments of grade that exceed 8%. The "or" makes it read as if you have to choose one or the other for the whole road. The Tech Addendum #5 would also be a place to mention that both waterbars and rolling dips in combination along a road system is many times the best application to achieve long-term control of road surface runoff."

Board Response:

The Board adopted the suggested change to ensure clarity of the regulations, and for consistency with other sections of the Road Rules, 2013 rule package.

DRAFT "ROAD RULES" FSOR

Rule Text Edit: Yes

Comment L6-5: Mitchell A. Hunt, RPF #2353.

"The proposed definition for **Significant Sediment Discharge** (895.1; Page 8) reads;

Significant Sediment Discharge means soil erosion that is currently, or may be in the future, discharged to watercourses or lakes in quantities that violate Water Quality Requirements or result in significant individual or cumulative adverse impacts to the beneficial uses of water. **One indicator of a Significant Sediment Discharge is a visible increase in turbidity to receiving Class I, II, III, or IV waters.**

I understand the need to define this term in the FPRs; as reducing, avoiding and preventing a "significant sediment discharge" is the focus of nearly all of the intent associated with FPR Road requirements and mitigations. As a member of the regulated public, harvest plan preparation and implementation becomes very difficult when there are different definitions or standards between the Resource Agencies that oversee timber harvest operations. The primary definition seems to avoid this conflict as the language generically points to "Water Quality Requirements". The conflict occurs in the last sentence as the definition provides an "Indicator", apparently in an attempt to explain the intent of the term. Providing one indicator for such an important term is problematic at face value as during the review process or more importantly, during an inspection on a day with heavy rain and overland flow, it will become the primary criteria to give a worksite a pass or fail, or worse, a violation to the plan submitter. The "Indicator" used to help define this term is a poor choice as "a visible increase in turbidity to receiving ... waters" explicitly reads as any visible increase. Simply put, minor levels of visible turbidity occur with many rainfall events that cause overland flow and at some point in the occurrence the "increase" can be observed. The other truth is that research shows that not all levels of turbidity create a "Significant Sediment Discharge".

Please drop the "Indicator" sentence all together in the definition and vet out the intent in the Technical Addendum #5 (which really seems to be the most appropriate) or modify the Indicator to better frame a significant sediment discharge.

A suggested modification to the "Indicator" portion of the definition is as follows: "... One indicator of a Significant Sediment Discharge is a visible ~~increase in turbidity~~ sediment delivery to receiving Class I, II, III, or IV waters as a result of, but not limited too; active operations not associated with emergency watercourse repair work, an improperly functioning drainage structure or facility, or a legacy sediment source (such as perched road fill, an existing crossing site, landslide).

Additional Explanation:

The definition for Significant Sediment Discharge (**SSD**) currently leaves the plan submitter open for a violation on newly completed work that is well done by all standards (new culverts, abandoned crossings (either legacy or operational), newly rocked roads, etc.), as all new installations or any newly abandoned (rehabilitated) site will show an increase in visible turbidity (minor as it might be) during the first series of fall rain events that generate overland flow. The definition is good; the "Indicator" is not. This language does incorporate Public Comment made by CAL FIRE on 3-26-13, but "a visible increase" occurs at some level during an overland flow event that is preceded by a dry period regardless whether a road has been used for seasonal timber operations.

DRAFT "ROAD RULES" FSOR

Several uses of this new term in the proposed rules read "... to prevent Significant Sediment Discharge..", which at face value is what we are trying to achieve, but any visible increase in turbidity to receiving waters, during rainfall events that cause overland flow is impossible to "prevent". Current practices, both operational and rehabilitative in nature, are doing a very good job at keeping the damaging sediment out of the watercourses, but "a visible increase in turbidity" can be so minor that it will clear up when rainfall stops, or even clear up after the rain lasts long enough for an initial rinse through a newly completed work site to occur. The "indicator" needs to be clear that "real" erosion or discharge is active and that degradation is occurring, not just turbidity that flushes through the system. The present indicator also does not address a "potential SSD" where delivery is imminent but not yet happening. Research on turbidity has shown that turbidity alone is not a reliable indicator of sediment problems in a watershed. The "Indicator" broadly covers turbidity levels so low that they could no way be construed as detrimental to the aquatic life of the related watercourse or habitat downstream (unless you are trying to enforce the definition of SSD as proposed). A true SSD will many times continue to discharge (and cause "a visible increase" in turbidity) after normal flows and clear water return, i.e. the turbidity "flush" is gone. Please either drop the "Indicator" portion of the definition and address intent of the term in the Technical Addendum #5 or revise the definition to be clear that we are managing real significance."

Board Response:

The Board did not adopt this comment recommendation. See response to Comment L3-3. The Board acknowledges that the definition of significant sediment discharge is a rigorous ("high bar") standard that was developed following considerable discussion from the regulated public and the reviewing agencies in Forest Practice Committee meetings. The inclusion of the sentence "one indicator of a significant sediment discharge is a visible increase in turbidity to receiving Class I, II, III, or IV waters" was recommended by the Department for enforceability by CAL FIRE Forest Practice Inspectors, providing an observable metric that can be used in field. Essentially the same standard has been in the existing California Forest Practice Rules for a number of years without causing significant problems to the regulated public (see for example 14 CCR Section 923.3 [943.2, 963.2] (t)). Additionally, the Board recognizes that Water Board policies specify that there are allowable zones for dilution within which higher percentages than 20% above naturally occurring background levels can be tolerated in many situations, making the definition of significant sediment source workable in field situations.

Rule Text Edit: No

Comment 7-1: Peter F. Ribar, Resource Manager, Campbell Timberland Management on behalf of Hawthorne Timber Company.

"Campbell Timberland Management (CTM) manages 114,000 for Hawthorne Timber Company in Coastal Mendocino County. The following comments are submitted on behalf of Hawthorne. I personally have been involved with road rules since 2004 as part of the Road Rules Technical Working Group and later as an engaged participant in ongoing discussions on this issue since 2008. The Initial Statement of Reasons adequately describes the timeline of events leading up to the current 45-day notice rule package before you. The length of the combined package (74 pages plus 19 pages of addendum) indicates the complexity of the proposed rule package, although reduced somewhat from the previous 90-day rule package length of 106 pages. The current proposal represents a significant improvement in clarity and reduced redundancy.

DRAFT "ROAD RULES" FSOR

However, it must be acknowledged that there will be a significant learning period for plan development and review team personnel that will require supervisors to manage performance expectations in a cooperative manner.”

Board Response:

The Board acknowledges the complexity of the adopted rule proposal and anticipates a period of adjustment for personnel involved in timber harvest plan writing and review. The Board and its Forest Practice Committee expect to receive periodic reports on the implementation and effectiveness of the adopted rule proposal.

Refer to response to Comment L3-3 regarding anticipated training sessions to be conducted in early 2014.

Rule Text Edit: No

Comment 7-2: Peter F. Ribar, Resource Manager, Campbell Timberland Management on behalf of Hawthorne Timber Company.

“The potential incorporation of a Technical Rule Addendum No. 5 (Addendum) as guidance for RPFs, LTOs Timberland Owners and agency personnel on four elements contained in the proposed rule package may be a valuable tool in guiding performance expectations. If adopted as part of the Forest Practice Rules, the Addendum will be enforceable by CAL FIRE (Department). The Forest Practice Committee (FPC) and rule development participants have included language that promotes site-specific evaluation and treatment rather than prescriptive standards. These sideboards are devised to provide all interested parties with the Board’s view on how the proposed rule package is to be implemented in the field. We strongly advocate that no additional guidance from the Department is warranted or needed regarding the issues outlined in the Addendum. Ultimately, rule requirements and the Addendum will be validated in the field over time during plan development, review, monitoring and enforcement. We also would urge some modification to the Addendum to more effectively highlight key provisions of the rule package; specific recommendations for changes to the Addendum are provided later in this letter.”

Board Response:

The Board acknowledges the concern expressed by Hawthorne Timber Company and intends to monitor the initial implementation of the adopted rule proposal, including Technical Rule Addendum Number 5.

It is not known if the Department of Forestry and Fire Protection intends to provide additional interpretative guidance documentation for implementation of the adopted rule proposal. However, the Board has not directed the Department to prepare such additional guidance.

Rule Text Edit: No

Comment 7-3: Peter F. Ribar, Resource Manager, Campbell Timberland Management on behalf of Hawthorne Timber Company.

“Should the Board adopt the rule package we would urge the Board to request the Department report back mid-year (July 2014?) with an update on any implementation issues that have arisen since adoption. This noticed agenda item would allow all parties to weigh-in on their view of initial implementation.”

DRAFT "ROAD RULES" FSOR

Board Response:

The Board did not specifically request a report from the Department of Forestry and Fire Protection on adopted rule implementation issues. However, the Department does report to the Board annually on rule implementation in a publicly noticed meeting in which participants are given the opportunity to comment. At a minimum, it is anticipated the Department's annual reporting will include a review of any implementation issues that have arisen since the effective date of the adopted rule proposal.

Rule Text Edit: No

Comment 7-4: Peter F. Ribar, Resource Manager, Campbell Timberland Management on behalf of Hawthorne Timber Company.

"The proposed combined rule package is designed to avoid or substantially lessen significant adverse impacts to multiple resource values; with emphasis on the protection of listed anadromous salmonids and the beneficial uses of water. The identification and treatment of significant existing or potential erosion sites and the prevention of significant sediment discharge rely on professional judgment by multiple parties and as such differences of opinion are bound to occur given the statewide area of application. Identification and potential treatment options are "triggered" by "crossing-over" some sediment delivery threshold that cannot be prescriptively defined. While such performance standards are not new, recently adopted road related rules use visible increase in turbidity or violate Water Quality Requirements or the more traditional amounts deleterious to the quality and beneficial uses of water; the proposed statewide requirements (currently in effect in ASP watersheds) require preventive action through specific prohibitions of activities when the sediment threshold may occur during use (e.g. 14CCR923.6 (b)). The application of this change statewide represents a significant financial contribution by landowners and LTOs due to potential delays in the conduct of operations."

Board Response:

The Board acknowledges implementation of the adopted rule proposal is likely to result in the expression of differences of opinion amongst resource professionals. Such differences of opinion are in fact already a common feature of the State's Forest Practice Program. The Forest Practice Rules as they exist currently are a mix of prescriptive and performance standards, and their implementation is dependent upon professional judgment and interdisciplinary interaction.

It is arguable whether newly adopted rule Section 923.6(b) is in fact a new statewide standard. Existing rule Section 923.6 [943.6, 963.6] "Conduct of Operations on Roads and Landings [All Districts]" already prohibits road and landing operations and maintenance, "...when sediment discharged from landings or roads will reach watercourses or lakes in amounts deleterious to the quality and beneficial uses of water." This current statewide standard has been in effect since 1991 and also includes the allowances for road and landing use for protective action or erosion control found in the newly adopted Section 923.6(b). The new rule section incorporates the newly defined threshold, "significant sediment discharge" rather than the current threshold, "amounts deleterious to the quality and beneficial uses of water." Otherwise, a comparison of the existing and newly adopted rule sections would suggest the two are, at a minimum, consistent in their expression of performance expectations.

DRAFT "ROAD RULES" FSOR

The Board acknowledges the significant costs associated with use and maintenance of roads and landings. Likewise, the Board recognizes the financial implications of production delays associated with the existing and newly adopted rules for use and maintenance of road systems. However, these financial constraints, at least as they relate to the distinctions between existing rule Sections 923.6 and newly adopted 923.6(b), are pre-existing and not a product of the Board's adoption of the rule proposal. As this example well illustrates, the practical effects of the restructuring and editorial revision of complex rule sets can be challenging to discern.

Rule Text Edit: No

Comment 7-5: Peter F. Ribar, Resource Manager, Campbell Timberland Management on behalf of Hawthorne Timber Company.

“Similar cost increases will accrue to Non-ASP watersheds by the addition of a comprehensive site assessment of existing logging roads and associated prescribed treatment measures. Timber Landowners in ASP watersheds have been conducting similar assessments since the original T/I rules mandated identification and treatment of active erosion sites. The costs associated with such assessments are directly associated with length and condition of road systems involved ranging to multiple days of assessment by multiple individuals depending on site complexity and > \$50,000 in treatment costs for some plans (excludes bridge installations). While smaller ownerships may well involve lower assessment/treatment costs due to size and scale, cost burdens are often front-loaded while benefits associated with reduced long-term maintenance are more back loaded representing real cash management issues. In 2012 Board Staff posed some questions regarding a potential revised road rules package including the economic impacts of the proposal. We responded to this request in a May 18, 2012 letter that is attached, which includes a list of elements and potential methodology for conducting an economic assessment of the road rules. Regardless, it will be imperative to distinguish ASP from non-ASP watersheds in the cost assessment as well as some range of anticipated costs. Given the cost implications for Non-ASP watersheds, it is extremely unfortunate that scheduling did not permit a formal road rules field trip to the interior part of the State. In 2004 the North Coast Regional Water Quality Board (NCRWQCB) adopted a General Waiver of Waste Discharge Requirements Related to Timber Activities on Non-Federal Lands in the North Coast Region (GWDRs), a Categorical Waiver of Waste Discharge Requirements (2009) and in 2013 a General Waiver of Waste Discharge requirements for Non-Industrial Timber Management Plans; all of which require development of an Erosion Control Plan (ECP). On industrial ownerships, many of the significant erosion sites have been treated over time and will no longer need additional treatment under subsequent assessments. However, the amount of erosion triggering an expectation of treatment appears to have gone down as assessors become focused on ever diminishing erosion/sediment discharge sites (e.g. diminishing returns). Thus the treatment cost of multiple “smaller” sites can cumulatively add up fast. While the expectation for ASP watersheds is different from other watersheds, a note of caution is warranted.”

Board Response:

The Board appreciates Hawthorne Timber Company's provision of information and concurs with his sentiments regarding the utility of a field trip to the interior part of the state.

DRAFT "ROAD RULES" FSOR

Please refer to response to Comment L5-2. 14 CCR 916.4(a)(1) has been in effect statewide since 1998 and requires evaluation of the potential impacts to watercourses from existing and proposed roads, landings, and skid trails among other features. It is questionable whether the erosion site assessment provisions of the adopted rule proposal differ significantly from the intent of this existing rule section.

Rule Text Edit: No

Comment 7-6: Peter F. Ribar, Resource Manager, Campbell Timberland Management on behalf of Hawthorne Timber Company.

“Of continuing concern in this this package is 14 CCR 923.2(e)(4) on page 25 which requires the disclosure and mapping of significant existing and potential erosion sites for which no feasible treatment exists. While 14 CCR 898 already requires the RPF to explain why alternatives or additional mitigation measures that would significantly reduce the impact are not feasible this requirement is often viewed in the context of particular sites. The context under subsection (e)(4) may well involve the evaluation of a lengthy old legacy riparian road which is not uncommon on the North Coast. I brought this concern up during rule development discussions at the FPC and it was postulated that simply mapping such road segments would suffice. We remain concerned that additional narrative discussion will be requested by agency reviewers to further clarify how the determination of no-feasible-treatment was made site-specifically rather than by overall segment. The concern being that this could entail the costly level of assessment required for treatable sites.”

Board Response:

The Board acknowledges the concern raised by Hawthorne Timber Company. However, the adopted rule proposal cannot alleviate the necessity for comprehensive discussion of certain erosion sites. The adopted rule requirement calls for mapping and disclosure of sites for which no feasible method of remediation exists. It is conceivable state agency plan reviewers would interpret “disclosure” as the exhaustive provision of detailed erosion site information, particularly where there is disagreement regarding the feasibility of treatment options. Where such disagreement exists between the plan proponent and agency plan reviewers, narrative discussion of the site within the plan may be necessary and useful. For sites in which there is general agreement on the absence of feasible treatment options, disclosure is likely to entail nothing more than mapping with an appropriate identifier in the map legend.

Rule Text Edit: No

Comment 7-7: Peter F. Ribar, Resource Manager, Campbell Timberland Management on behalf of Hawthorne Timber Company.

“One particular element in the package that we are entirely in support of is the incorporation of an Article-wide exception provision (14CCR 923(c)), page 20. Given the range and complexity of the package such a provision gives the regulated community the assurance that site-specific flexibility is provided if substantiated in the plan and approved by the Director. This provision should go a long way to garnering regulated community rule package acceptance, if not support. Unfortunately, the downside of site-flexibility is often the growing size (i.e. plan pages) of plan documentation to address both operational requirements (e.g. THP Section II) and analysis (e.g. explain and justify; THP Section III).”

DRAFT "ROAD RULES" FSOR

Board Response:

The Board acknowledges and appreciates Hawthorne Timber Company's qualified support for the exception provision in the adopted rule proposal.

Rule Text Edit: No

Comment 7-8: Peter F. Ribar, Resource Manager, Campbell Timberland Management on behalf of Hawthorne Timber Company.

"Another requirement carried over from the previous noticed plead is the requirement for site inspections during the Prescribed Maintenance Period. While some of the Regional Water Board inspections may coincide with this new requirement most will not as the termination under the GWDRs occurs after the THP final completion report has been submitted and determined to be in conformance with the rules and the plan by CAL FIRE (see proposed revised definition of Prescribed Maintenance Period). Such inspections (at least once during the extended wet weather period) are new costs that can range from several hours to multiple inspection days per plan depending on length of roads (both appurtenant and within the harvest area).

Board Response:

The Board acknowledges the inspection requirements in the adopted rule proposal represent a cost to timberland owners. Even so, erosion control inspections during the prescribed maintenance period are already required by existing Forest Practice Rule Section 1050. The newly adopted rule requirement references compliance with Section 1050, but describes performance expectations in greater detail than this existing rule section. For this reason among others, it is questionable whether the new rule requirement could be considered an added expense. Further, as noted by the commenter, the Board attempted to address the expense of duplicative inspection requirements by allowing Regional Water Board inspection requirements to likewise demonstrate compliance with the Board's adopted inspection requirements.

The effectiveness of Forest Practice Rules in protecting resource values can only be verified through physical inspections. It is undeniable that the absence of vigilance between harvest entries can lead to uncontrolled erosion problems and possibly "significant sediment discharges." The expense of inspections is little when compared to the expense of costly road and crossing remediation work where a timely hand-dug waterbar may have thwarted such an obligation.

Rule Text Edit: No

Comment 7-9: Peter F. Ribar, Resource Manager, Campbell Timberland Management on behalf of Hawthorne Timber Company.

"We support the requirements that establish different prescribed maintenance periods in ASP for abandoned roads (i.e. one year versus three for other roads). This modification recognizes the potential sediment contribution associated with re-entry onto these sites for repairs once all work was been completed (including stabilization) that often includes removed watercourse crossings."

Board Response:

The Board acknowledges and appreciates Hawthorne Timber Company's support for the prescribed maintenance period provisions in the adopted rule proposal.

Rule Text Edit: No

Comment 7-10: Peter F. Ribar, Resource Manager, Campbell Timberland Management on behalf of Hawthorne Timber Company.

“At the lengthy FPC meeting in Ventura the Committee and interested parties worked over the mapping requirements contained in 14 CRR 1034 subsection (x). Unfortunately the proposed plead on page 66, line 24 and page 67, line 2 requires an excessive mapping standard that will only increase the number of THP pages/maps. The issue is the map scale required for roads and landings in the WLPZ on appurtenant roads. On the North Coast, many historic logging railroads were located near watercourses and later converted to mainline roads. Under current 1034(x) such appurtenant roads in the WLPZ can be depicted on smaller scale maps (1:24000 versus 1:12000) thus reducing the number of maps while still disclosing such roads (see two example maps for the Vallejo THP that are attached). The proposed rule language needs to be modified to allow the current mapping practice to continue (modifications in color in underline and strike-out). We recommend page 66, line 23-25 be modified as follows; “... not less than 2” to the mile, the information in subsections (1-4), ~~(4)~~(A), (B) and (E)(~~B and E~~ for sites within the harvest area),...”. We also recommend conforming language changes on page 67, lines 1-2: “The appurtenant roads referenced in subsection (4)(~~B~~ for sites not within the harvest area), (C), (D), and ~~(E)~~ for those sites not within the harvest area may...”.”

Board Response:

The Board adopted Hawthorne Timber Company’s proposed correction of the rule proposal with minor grammatical revisions.

Rule Text Edit: Yes

Comment 7-11: Peter F. Ribar, Resource Manager, Campbell Timberland Management on behalf of Hawthorne Timber Company.

“After over a year and a half of modification, the proposed rule package represents an improvement over the earlier 90-day noticed plead both in terms of content and clarity. The watercourse crossing section (e.g. 14 CCR923.9), while breaking with the formal road section categories used earlier is organized in a logical manner while reducing redundancy. The use of modifiers such as: “to the extent feasible”, “practical and feasible” and “as needed” and “where feasible and appropriate” improve the usefulness of the requirements without being overly prescriptive.”

Board Response:

The Board acknowledges and appreciates Hawthorne Timber Company’s qualified support for the adopted rule proposal.

Rule Text Edit: No

Comment 7-12: Peter F. Ribar, Resource Manager, Campbell Timberland Management on behalf of Hawthorne Timber Company.

“While we would have preferred that the Technical Rule Addendum No. 5 information be provided in a non-regulatory white-paper that would not technically be enforceable but be “pure” guidance, we recognize the concern of developing guidance that could be considered under-ground regulation. We are also supportive of a more narrowly focused

DRAFT "ROAD RULES" FSOR

Addendum that would only include Parts I, III and IV: hydrologic disconnection, diversion potential and critical dips and high risk crossings (requirements that in our view represent the largest potential sediment delivery reduction elements). Part II (Road Drainage) while important, should not receive the same emphasis and would not be contained in the Addendum. This will result in a more focused Addendum highlighting issues of highest priority. We believe that removing this section will not diminish rule understanding and implementation, particularly given all the caveats that were added to promote performance over prescription and the thorough site assessment procedure that is subject to evaluation by a multi-disciplinary review team. We therefore recommend revising the Addendum to consist entirely of existing Parts I, III and IV, including applicable changes to Part V (resulting in a four part Addendum, including a revised title and Part V heading (new Part IV) and revised figures). Proposed modification include (modifications in color and underline and ~~strikeout~~ or described): modify Addendum title on page 1 to “GUIDANCE ON HYDROLOGIC DISCONNECTION, ~~ROAD DRAINAGE,~~ MINIMIZATION OF DIVERSION POTENTIAL, AND HIGH RISK CROSSINGS”; modify the purpose on page 1, lines 9-10: “...road segments, ~~logging road drainage,~~ minimization of diversion potential and high risk crossings, as...”; modify Page 1, lines 21-25 and page 2, lines 1-2: “... Part II ~~contains guidance on the appropriate location of drainage facilities and structures, installation of energy dissipators, road surface outcropping, and placement of rolling dips.~~ Part III describes diversion potential at watercourse crossings and the importance of critical dip installation. Part ~~IV~~ describes crossings with higher risk of failure and potential approaches that can be used to reduce the risk of catastrophic failure. Part ~~V~~ concludes with ~~a table and~~ several figures that illustrate the concepts discussed in the text of the addendum.”; delete the last sentence of paragraph two on page 4, lines 12-15 as it inconsistent with the rule language: “~~For all existing roads segments where hydrologic connection may be present, 14 CCR § 923.1(e) [943.1(e), 963.1(e)] requires that an evaluation be conducted to identify which segments need to be disconnected and how the disconnection will occur.~~”; insert the rule reference deleted immediately above to page 7, line 8 “...significant existing or potential erosion sites (see 14 CCR § 923.1(e) [943.1(e), 963.1(e)].”); modify part I. C on page 8, lines 12-13 deleting the last sentence from the first bullet; and in the second bullet on page 8 delete the sentence starting on line 24 and continuing on to the top of page 9 deleting lines 1-5; deleting all of Part II on pages 10-13: make conforming title change on page 13, line 15 “~~III~~”; make conforming title change on page 14, line 8 “~~IV~~”; modify Part V starting on page 15, line 11 “~~V~~. ~~Table and~~ Figures”, modify line 12 “The following ~~table and~~ figures are provided as examples to illustrate design concepts.”; delete Table 1, lines 15-23; delete Figures 3-5 on pages 17-18; modify the title of Figure 6 on page 19 as “Figure ~~63~~”; modify the title of Figure 7 on page 19 as “Figure ~~74~~”. Also a conforming change to the rule language would be needed: delete the last sentence of subsection (6) on page 29, lines 9-10. Finally it is recommended to add the following sentence to either or both subsections (j) and (k) on page 59 and subsection (o) on page 60: “Guidance on methods for conformance with this rule section may be found in the Board’s Technical Rule Addendum Number 5.”. It is our understanding that these modifications can be undertaken with at most a 15 day notice and that the final rule adoption including the findings and the economic assessment could all occur at the November meeting.”

Board Response:

The Board did not adopt Hawthorne Timber Company’s proposed amendments to adopted Technical Rule Addendum Number 5.

DRAFT "ROAD RULES" FSOR

Poor road drainage can result in significant chronic sediment inputs to watercourses. Numerous contemporary examples of the effects of inadequate road drainage were viewed during the Forest Practice Committee's field trip in the Coast Forest District. The Board understands the concern that the guidance for road drainage contained in Parts II and V of the Addendum could become de facto requirements if so imposed by agency plan reviewers. It is for this reason the Addendum includes a number of qualifier statements intended to discourage such de facto use. Among these qualifier statements is a sentence in the first paragraph of the Addendum specifying the Board's intention that the Addendum's guidance be, "...integrated with site-specific evaluation of logging road conditions in the field." Another key qualifier statement is found in the last sentence of Part II: "In the preparation of THPs, NTMPs, and PTHPs, RPFs may develop and use other [rolling dip] spacing guidelines that better match the field conditions where their plans are proposed." Still another key qualifier is located in the opening paragraph of Part V, which states, "The following table and figures are provided as examples to illustrate design concepts. These are not intended to serve as default performance standards."

Rule Text Edit: No

Comment 7-13: Peter F. Ribar, Resource Manager, Campbell Timberland Management on behalf of Hawthorne Timber Company.

"In summary, we would tentatively support the package with incorporation of changes as described above to 14 CCR 1034(x) and Technical Rule Addendum No. 5 but reserve the right to comment on any other changes the Board may opt to include in a 15 day notice."

Board Response:

The Board acknowledges and appreciates Hawthorne Timber Company's "tentative" support for the adopted rule proposal. The Board incorporated Hawthorne's proposed minor corrections to rule Section 1034(x), but chose not to incorporate the proposed significant edits to Technical Rule Addendum Number 5 for the reasons indicated in response to Comment L7-12.

Rule Text Edit: No

Comment 8-1: Michael W. Laing, Northern California Council Federation of Fly Fishers.

"In general, we feel the regulations are a significant improvement and if effectively implemented, will greatly reduce sediment pollution and improve salmonid habitat in those impaired watersheds in Northern California subject to commercial timber harvesting."

Board Response:

The Board acknowledges and appreciates the Northern California Council Federation of Fly Fishers' qualified support for the adopted rule proposal.

Rule Text Edit: No

Comment 8-2: Michael W. Laing, Northern California Council Federation of Fly Fishers.

DRAFT "ROAD RULES" FSOR

"In past comment letters to the Board of Forestry and Fire Protection (BOF) we have emphasized that the BOF, as an agency with public trust responsibility for resource protection, should use the precautionary principle in regulating and enforcing sound and sustainable forestry practices. The Public Trust Doctrine and the Precautionary Principle are codified in the State Constitution have been upheld by courts in California for the last 100 years. (See California Case Law--National Audubon Society vs. Superior Court 33,) The Precautionary Principle is simple, it states that agencies like CAL FIRE and the California Department of Fish and Wildlife (DFW) have the responsibility to implement regulations that are conservative, have sufficient factors of safety, and can pass the "do no harm" test. In the Audubon decision, the California Supreme Court ruled that "the state is obligated to supervise the protection of public trust resources and act to prevent parties from using the trust (water and wildlife) in a harmful manner."

Board Response:

The Legislative intent provided in the Z'berg-Nejedly Forest Practice Act, Public Resources Code Section 4513 provides the statutory context in which the Board is to adopt Forest Practice Rules. This Section states as follows:

4513. Intent of Legislature. It is the intent of the Legislature to create and maintain an effective and comprehensive system of regulation and use of all timberlands so as to assure that:

(a) Where feasible, the productivity of timberlands is restored, enhanced, and maintained.

(b) The goal of maximum sustained production of high-quality timber products is achieved while giving consideration to values relating to sequestration of carbon dioxide, recreation, watershed, wildlife, range and forage, fisheries, regional economic vitality, employment, and aesthetic enjoyment.

In addition to the Forest Practice Act, the Board and Department of Forestry and Fire Protection are responsible for compliance with the California Environmental Quality Act (CEQA). The Board's rulemaking process has been certified by the Secretary of the Natural Resources Agency as compliant with CEQA. Timber Harvesting Plans are similarly certified as "functionally equivalent" to an Environmental Impact Report pursuant to CEQA. The relationship between CEQA and the Forest Practice Act has only become tighter since 1973, largely due to a number of legal decisions over time.

The case law citation provided by the Federation of Fly Fishers refers to the litigation over the diversion of Mono Lake tributary streams by the Los Angeles Department of Water and Power (LADWP). The implication of this case to the State's regulation of commercial timber harvesting on private timberlands is not clear.

Rule Text Edit: No

Comment 8-3: Michael W. Laing, Northern California Council Federation of Fly Fishers.

"The key to making the proposed new road rules effective in protecting salmonids and their habitats will be: Can the BOF develop an approach that insures the improvements in the road regulations are performed in a timely manner and that those performing the work (registered professional foresters (RPFs) or their authorized designees) are trained to perform the work in a standardized manner that is outlined in the technical addendum

DRAFT "ROAD RULES" FSOR

No.5. We recommend training seminars be quickly developed using the services of Pacific Watershed Associates (or other qualified entity). This will insure that the best management practices are understood by those responsible for performing the work.”

Board Response:

Refer to response to Comment L3-3 regarding anticipated training sessions to be conducted in early 2014.

Rule Text Edit: No

Comment 8-4: Michael W. Laing, Northern California Council Federation of Fly Fishers.

“Next, the BOF needs to develop a simple system to track the completion of the work. What the NCCFFF recommends is the adoption of performance measures that are simple, easy to understand and implement, and accurately measure progress. (See the attached Time Magazine article by Bill Gates, Founder and Chairman of Microsoft on the importance of establishing goals and performance measures.) Applying the concepts that Mr. Gates discusses to the various elements of the roads package is discussed below:

1. Road Rules 2013, 923.1 (G) page 24 of the plead published 8/23/13:

The Goal: The landowner and RPF are to identify existing sources and potential sources of sediment and the order of treatment to repair and eliminate these sources in a timely manner.

The performance measure: Percent of sources repaired or eliminated on a yearly basis. The measurement system: The RPF submits a map with the THP (or NTMP) application clearly showing existing and potential sediment sources. On a yearly basis, the RPF marks "Completed" on the noted sources and submits the updated map to CAL FIRE. CAL FIRE summarizes the results which show total number of sediment sources reported, the percent repaired or eliminated, sub grouped by THP and landowner. The reports are submitted to the BOF and the public so that progress can be monitored.

Another advantage of this approach would be to use the maps by CAL FIRE inspectors during their annual inspections of watercourse crossings during the prescribed maintenance periods (923.9 (U) page 63.”

Board Response:

Refer to response to Comment L3-4.

The Board acknowledges the comment provided by the Northern California Council Federation of Fly Fishers. However, the Board did not adopt the suggested metric for measurement and monitoring of sediment source remediation. The Board’s “Effectiveness Monitoring Committee” is expected to assist the Board in its monitoring of “Road Rule” effectiveness.

Rule Text Edit: No

Comment 8-5: Michael W. Laing, Northern California Council Federation of Fly Fishers.

DRAFT "ROAD RULES" FSOR

“3. Additional comments from NCCFFF regarding the Road Rule 2013 package:

923.1 (G) Page 24: On slopes less than 30 percent there is no language in the plead limiting the distance of the road from a Class II-S watercourse. This implies that a road could be as close as 50 feet since the width of a Class II-S watercourse and lake protection zone (WLPZ) is 50 feet. (Note that the Pete Cafferata/Drew Coe report of 5/4/10, "State BOF--Forest Practice Committee Science Review for Road Rules Discussion", states that 50 feet may be insufficient and that 100 feet may be more appropriate. When this was discussed at the FPC meeting, the timber industry position was that the 100 foot requirement would force them to build new road when they were in the process of reconstructing an existing road. Recognizing that constructing a new road may do more harm than good, particularly if the reconstructed road is hydrologically disconnected from the watercourse, the 50 foot distance may be adequate. To deal with this issue, we request that the language in 923.1 be amended to include a statement to "explain and justify" the use or reconstruction of a road adjacent to a Class II-S WLPZ and insure that the reconstructed road segment is completely hydrologically disconnected from the watercourse.”

Board Response:

The Board did not adopt the rule modification proposed by the Northern California Council Federation of Fly Fishers. As indicated by the commenter, this proposed rule modification was discussed a number of times in the Forest Practice Committee. The Committee found that in certain instances, particularly for smaller ownerships, it may not be possible to reconstruct a road outside of a 100 foot Class II-Standard WLPZ. In other instances, the possible impacts of new construction may outweigh the benefits of continuing use of a stable, “hydrologically disconnected” road segment.

Regardless, newly adopted rule Section 923.4(a) [943.4(a), 963.4(a)] clearly specifies the “hydrologic disconnection” standard central to the entire rule proposal. This rule Section requires logging roads and landings to be, “...hydrologically disconnected from watercourses and lakes to the extent feasible to minimize sediment delivery from road runoff to a watercourse.” As has been noted in comments by the Central Valley Regional Water Quality Control Board, this is a “stringent” standard. In light of this standard, it is unclear what benefit may be derived from requiring additional narrative explanation and justification in harvesting plans for construction or use of road segments outside the Class II-Standard WLPZ.

Rule Text Edit: No

Comment 8-6: Michael W. Laing, Northern California Council Federation of Fly Fishers.

“923.9 (p) (2) Page 61: The plead states that the excavated material and any resulting cut bank shall be no greater than 65 percent (1.5:1), horizontal to vertical from the outside edge of the constructed channel to prevent slumping, minimize soil erosion and sediment transport and to prevent significant sediment discharge.

After consulting with Mark Moore, retired DFW Staff Environmental Scientist, we are informed that in his 12 years of working with Green Diamond Resource Company and smaller non-industrial timberland owners and observing numerous representative crossings pre and post removal, he frequently observed failures on pulled crossing slopes steeper than 2:1. He stated that DFW established and negotiated the Best

DRAFT "ROAD RULES" FSOR

Management Practice of 2:1 or flatter into the Green Diamond and the Humboldt Redwood Company Master Agreements for Timber Operations which are included in their Habitat Conservation Plans (HCP's). He informed us that over his career he observed hundreds of pulled crossings where the correct finished angle of repose needed to prevent slumping or significant sheet or significant gully erosion of sediment into Class I, II and III watercourses is 2:1 or flatter, or the original ground contour. Importantly this standard (2:1 or flatter), was been routinely included in DFW1602 agreements on the north coast prior to completing the DFW Master Agreements for Timber Operations with Green Diamond and Humboldt Redwood Company. To Mark's recollection, there were no major objections regarding the 2:1 or flatter standard from timber operators. Based on this evidence, we recommend that the Road Rules 2013 language in 923.9 (p) (2), for at least the North Coast Region, be changed to "resulting cut bank slope shall be no greater than 50%."

Board Response:

The Board did not adopt the rule modification proposed by the Northern California Council Federation of Fly Fishers. This proposed rule modification was discussed a number of times in the Forest Practice Committee. A licensed geologist representing the California Geological Survey participated in these meetings and responded to this comment more than once noting that the rule standard states, "The face of crossing fills shall be **no greater than 65 percent (1.5:1 horizontal to vertical).**" (Emphasis added). This clearly implies site-specific conditions may dictate lower crossing fill standards dependent upon the findings of agency plan reviewers. A representative of the Department of Fish and Wildlife (DFW) also informed the Committee of contemporary examples of Fish and Game Code 1600 Agreements in which the fill slope standard imposed was 1.5:1 horizontal to vertical. This representative likewise noted the adopted rule standard and DFW's discretionary oversight of 1600 Agreements still allows for flatter fill slope requirements dependent upon conditions on site.

Rule Text Edit: No

Comment L9-1: Chris Quirnbach/Chris Eades, Michigan-California Timber Company.

"Edit of Concern"

The edit of concern is found on lines 15-16 on page 6 of the rule package. This edit proposes the deletion of the definition of the term "public road" from the Forest Practice Rules (FPR). The term "public road" is used 67 other times in the Forest Practice Rules. A sampling of the rule sections the term occurs in are: County Rules (many rule sections in several counties), Definitions (14 CCR 895.1 "Fire Protection Zone", "Logging Road"), Board of Forestry Technical Rule Addendum #2-Cumulative impacts (Visual Resources, Vehicular Traffic Impacts), Hazard Reduction (14 CCR [917, 937, 957].2, .4, Wildlife Protection Practices (14 CCR (919, 913, 959].1., Notice Of Intent, and mapping requirements in multiple rule sections pertaining to THP Content, WNW Content, etc. Deleting the definition of "public road" means there will be much less clarity to plan submitters, reviewing agencies, and members of the public in regards to what a public road is. Given how many times the term is used as well as the broad spectrum of rule sections it occurs in, this could prove to be very problematic. While some public roads are obvious (highways, city roads) other public roads such as roads on which the United States Forest Service has deeded, unlimited easement are less obvious. The existing definition of "public road" has provided good guidance for the variety of rule sections in

DRAFT "ROAD RULES" FSOR

which the term is used. The definition has also provided a fair balance regarding the responsibility of private timberland owners for maintaining roads from which the general public derives benefit from. Deletion of the definition would necessitate the BOF to amend all rule sections in which the term is used in order to fill the gap.

Deletion of the definition would also undermine the proposed rule package since one of the primary subjects of the rule package is "logging roads". The rule package does not propose to modify the existing definition of the term "logging road" in 14 CCR 895.1 which reads as follows: "means a road **other than a public road** (emphasis added) used by trucks going to and from landings to transport logs and other forest products." Without the definition of "public road," it becomes unclear which roads the rule package applies to. To say it another way, one has to know what a public road is in order to know what a logging road is."

Board Response:

The Board adopted the suggested change to ensure clarity and enforceability of the regulations, as well as for consistency with other sections of existing California Forest Practice Rules.

Rule Text Edit: Yes

Comment L9-2: Chris Quirmbach/Chris Eades, Michigan-California Timber Company.

"Path Forward

MCTC encourages the BOF to obtain a good understanding of the economic impacts of the rule package. It is important to note that several of the provisions of this rule package that only appl[y] in watersheds with listed anadromous salmonids will apply statewide. Most of this regulatory expansion will occur in inland areas where the BOF Forest Practice Committee was unable to conduct a field trip. Given the large size of this rule package and subsequent potential for unforeseen language errors as well as the expansion of provisions to inland areas of the state, prior to final adoption, we encourage the BOF to implement the rule package on a subset of THPs on the State Forests and any other THPs on willing landowners. This would provide valuable insight from a broader spectrum of plan submitters in terms of practicality as well as helping the BOF obtain a good understanding of what the economic costs of implementing the rule package are."

Board Response:

The Board did not adopt this comment recommendation. The Board finds that the economic costs of implementing the adopted rule requirements included as part of the Road Rules, 2013 rule package are sufficiently well understood to allow statewide application, since the majority of the requirements have been mandatory in watersheds with State and federally listed anadromous salmonids since January 1, 2010 (when the Anadromous Salmonid Protection Rules were implemented).

Rule Text Edit: No

Comment L9-3: Chris Quirmbach/Chris Eades, Michigan-California Timber Company.

"Michigan-California Timber Company (MCTC) would like to provide input and comments for consideration by the Board of Forestry and Fire Protection (BOF) in regard to the rulemaking package "ROAD RULES, 2013" (rule package). MCTC will be affected

DRAFT "ROAD RULES" FSOR

by the implementation of a new rule package during the course of its normal land management activities and submission of timber harvest plans. MCTC views the proposed rules will provide for an overall net benefit to the forest road network and the environment by requiring actions that help minimize sediment delivery and maintain water quality standards.”

Board Response:

The Board agrees with the Michigan-California Timber Company that the rule requirements approved as part of the Road Rules, 2013 rule package will provide for an overall net benefit to the forest road network and the environment by requiring actions that help minimize sediment delivery and maintain water quality standards. The Board acknowledges the Michigan-California Timber Company’s overarching support for the Road Rules, 2013 rule package.

Rule Text Edit: No

Comment L9-4: Chris Quirnbach/Chris Eades, Michigan-California Timber Company.

“§ 895.1 Definitions

COMMENTS:

1. A few terms within the rule package are lacking definitions in the rule book. In order to be in conformance with the regulations and provide for adequate resource protection, I think it would be extremely helpful to develop definitions on the following terms: ***overland flow, seeps, springs, surface runoff.***”

Board Response:

The Board did not adopt this comment recommendation. The Board finds that the adopted rule requirements included as part of the Road Rules, 2013 rule package are sufficient to address these suggested rule insertions. Registered Professional Foresters (RPFs) are expected to have a working knowledge of watershed management and hydrology (see for example the “The Professional Foresters Law and the role of the Registered Professional Forester in Managing California’s Forests,” available at: http://bofdata.fire.ca.gov/professional_foresters_registration/about_seebox/role_rpf_2013.pdf). As such, RPFs and other resource professionals in the regulated public should have a working knowledge of the meaning of overland flow, seeps, springs, and surface runoff.

Rule Text Edit: No

Comment L9-5: Chris Quirnbach/Chris Eades, Michigan-California Timber Company.

“§ 895.1 Definitions

COMMENTS:

2. The definition of ***Road approach*** includes the term overland flow, which is not defined in the rules. It would be better to state “the portion of the logging road prism that is not hydrologically disconnected to the watercourse crossing and includes the logging road surface drainage network.””

DRAFT "ROAD RULES" FSOR

Board Response:

The Board did not adopt this comment recommendation. See the response to Comment L9-4. The Board finds that the adopted definition of road approach included as part of the Road Rules, 2013 rule package provides sufficient clarity and enforceability, and does not require modification.

Rule Text Edit: No

Comment L9-6: Chris Quirnbach/Chris Eades, Michigan-California Timber Company.

"§ 895.1 Definitions

COMMENTS:

3. ***Significant Sediment Discharge*** does not appear to be exclusive to a forest practice activity or draw a distinction between natural sources of sediment. It is unclear if enforcement of this condition will be viewed in the context a forest practice with negligence on the part of the landowner, or if it can include failure to address a natural source of sediment discharge in **§ 923.5 [943.5,963.5] (n).**"

Board Response:

See the response to Comments L3-3 and L6-5. The Board anticipates and it is reasonable to expect that the "on-the-ground" interpretation of significant sediment source will be similar to that used by the North Coast Regional Water Quality Control Board for "controllable sediment discharge source" associated with Erosion Control Plans. This definition is as follows: CSDS are defined as sites or locations within the logging area that meet all the following conditions: (1) is discharging or has the potential to discharge sediment to waters of the state in violation of water quality requirements or other provisions of this WDR; (2) was caused or affected by human activity; and (3) may feasibly and reasonably respond to prevention and minimization management measures.

Rule Text Edit: No

Comment L9-7: Chris Quirnbach/Chris Eades, Michigan-California Timber Company.

"§ 916.4 [936.4, 956.4] Watercourse and Lake Protection

(a) The RPF or supervised designee shall conduct a field examination of and map all lakes and Class I, II, III, and IV watercourses. and shall map all lakes and watercourses which contain or conduct Class I, II, III or IV waters.a)

COMMENTS:

1. Acceptance of color maps would be of great benefit when submitting timber harvest plans, and would likely result in visibly better maps presented to the reviewing agencies."

Board Response:

The Board did not adopt these comment recommendations. The Board finds that the existing language in the California Forest Practice Rules provides sufficient clarity and

DRAFT "ROAD RULES" FSOR

enforceability. Color maps are not acceptable to the Department due to photocopying requirements. Additionally, 14 CCR Section 1034 specifies that color coding shall not be used.

Rule Text Edit: No

Comment L9-8: Chris Quirnbach/Chris Eades, Michigan-California Timber Company.

“§ 923.1 [943.1, 963.1] **Planning for Roads and Landings**

Amend § 923.1[943.1, 963.1]. Planning for Logging Roads and Landings.

Logging roads and landings shall be planned and located within the context of a systematic layout pattern that considers 14 CCR § 923(b), uses existing logging roads and landings where feasible and appropriate, and provides access for fire and resource protection activities.

COMMENTS:

1. Access for forest management should be included with fire and resource protection activities.”

Board Response:

The Board did not adopt these comment recommendations. The Board finds that the adopted rule language included as part of the Road Rules, 2013 rule package provides sufficient clarity, and that forest management is implicitly included when planning for logging roads and landings.

Rule Text Edit: No

Comment L9-9: Chris Quirnbach/Chris Eades, Michigan-California Timber Company.

“Amend § 923.2 [943.2, 963.2]. **Design and Location for Logging Roads and Landings Road Construction.**

(a)(7) Avoid crossing, or locations on, 100 feet or more of lineal distance over any slopes greater than 65 percent or within 100 feet of the boundary of a WLPZ on slopes greater than 50 percent that drain toward the zoned watercourse or lake. Where logging road or landing construction or reconstruction is proposed in these areas, specific measures to minimize movement of soil and the discharge of concentrated surface runoff shall be incorporated in the plan. The Director may waive inclusion of such measures where the RPF can show that slope depressions, drainage ways, and other natural retention and detention features are sufficient to control overland transport of eroded material.

COMMENT:

DRAFT "ROAD RULES" FSOR

1. The adjective "lineal" is incorrectly used in the regulations. This is a term that is associated with genealogy or heritage, and not with distance. Try "horizontal" distance instead."

Board Response:

The Board did not adopt this comment recommendation. Linear is an adjective of lineal, and pertains to length.

Rule Text Edit: No

Comment L9-10: Chris Quirmbach/Chris Eades, Michigan-California Timber Company.

"(c) Excess material excavated during logging road and landing construction shall not be transported to locations where it may result in significant sediment discharge.

COMMENT:

1. This rule should also include language "shall not be placed in unstable locations."

Board Response:

The Board did not adopt this comment recommendation. The Board finds that the adopted rule language included as part of the Road Rules, 2013 rule package provides sufficient clarity. By specifying "significant sediment discharge", this requirement includes any area that could generate a Water Quality violation, which takes into account unstable locations.

Rule Text Edit: No

Comment L9-11: Chris Quirmbach/Chris Eades, Michigan-California Timber Company.

"(d) In addition to the requirements of subsection (a) above, all logging roads to be constructed or to be reconstructed shall:

(1) Be no wider than a single-lane compatible with the largest type of equipment specified for use on the logging road, with adequate turnouts provided as required for safety, except where wider road dimensions are required by existing contracts with a federal agency.

COMMENT:

1. This rule fails to consider construction and/or realignment of existing two-lane mainline roads on a private landowner for environmental reasons or storm damage events. The basis for this section is unclear, including the only exception being for federal agreements."

Board Response:

The Board did not adopt this comment recommendation. The Board finds that the adopted rule language included as part of the Road Rules, 2013 rule package provides sufficient clarity and environmental protection. This is essentially existing rule language that has been in existence for many years without causing significant problems or issues for the regulated public. If an issue was raised by a reviewing agency, the Registered

DRAFT "ROAD RULES" FSOR

Professional Forester can propose an exception under 14 CCR Section 923 [943, 963] (c).

Rule Text Edit: No

Comment L9-12: Chris Quirnbach/Chris Eades, Michigan-California Timber Company.

“(e) In addition to the requirements of subsection (a) above, all landings to be constructed or to be reconstructed shall:

(1) Be consistent with the yarding and loading system to be used.

(2) Be no larger than one-half acre.

(3) Avoid construction on slopes greater than 40 percent where the landing will exceed one-quarter acre in size.

COMMENT:

1. The designation of landing size is arbitrary. New landings may well exceed the proposed ½ acre maximum, particularly when helicopter yarding tall timber. There are definitely some safety considerations that should be taken into account, and the size of the landing should be determined by the pilots, ground crew, and landowner, but encouraged to be kept to the minimum size needed to do the job safely. Cal OSHA states the landing drop zone has to be 2x the nominal length of the log being yarded, and the decking and loading area must be at least 125' from the drop zone. For an average log length of 40', the length must be a minimum of 205'. The maximum width to meet the rule could be 106', which in all likelihood would be too narrow for safe operations. Tree length yarding would obviously increase this area.

2. The ¼ acre rule on slopes >40% again seems arbitrary. It fails to consider operational considerations like the need to avoid perched landings and to accommodate road intersections at or near landing sites.

The solution here would be to eliminate the restriction on landing size, and keep only subsection (1), and make clear that there can be exceptions to these activity examples in § 923.”

Board Response:

The Board did not adopt these comment recommendations. The Board finds that the adopted rule language included as part of the Road Rules, 2013 rule package provides sufficient clarity and environmental protection. This is essentially existing rule language that has been in existence for many years without causing significant problems or issues for the regulated public. If an issue was raised by a reviewing agency, the Registered Professional Forester can propose an exception under 14 CCR Section 923 [943, 963] (c).

Rule Text Edit: No

Comment L9-13: Chris Quirnbach/Chris Eades, Michigan-California Timber Company.

“Amend § 923.4 [943.4, 963.4]. Construction and Reconstruction for Logging Roads and Landings Road Maintenance.

DRAFT "ROAD RULES" FSOR

(f) Any tree over 12 inches dbh with more than 25 percent of the root surface exposed by logging road or landing construction shall be felled concurrently with the timber operations.

COMMENTS:

1. Cal OSHA specifically states that any tree that presents a safety hazard shall be cut. A tree's dbh is not a consideration if it is deemed to be unsafe to operations."

Board Response:

The Board did not adopt this comment recommendation. The Board finds that the adopted rule language included as part of the Road Rules, 2013 rule package provides sufficient clarity and environmental protection. This is essentially existing rule language that has been in existence for many years without causing significant problems or issues for the regulated public. If an issue was raised by a reviewing agency, the Registered Professional Forester can propose an exception under 14 CCR Section 923 [943, 963] (c).

Rule Text Edit: No

Comment L9-14: Chris Quirmbach/Chris Eades, Michigan-California Timber Company.

“(h) Waste organic material, such as uprooted stumps, cull logs, accumulations of limbs and branches, and unmerchantable trees, shall not be buried in logging road or landing fills. Wood debris or cull logs and chunks may be placed and stabilized at the toe of fill to restrain excavated soil from moving downslope.

COMMENTS:

1. Chunks of what?

2. Corduroy roads, or segments of a road that require the corduroy technique, should be permitted across wet areas to reduce importation of aggregate and keep costs under control."

Board Response:

The Board did not adopt these comment recommendations. The Board finds that the adopted rule language included as part of the Road Rules, 2013 rule package provides sufficient clarity and environmental protection. This is essentially existing rule language that has been in existence for many years without causing significant problems or issues for the regulated public. If construction of a corduroy road is desired by a Registered Professional Forester, s/he can propose an exception under 14 CCR Section 923 [943, 963] (c).

Rule Text Edit: No

Comment L9-15: Chris Quirmbach/Chris Eades, Michigan-California Timber Company.

“(j) Where constructed fills will exceed three feet in vertical thickness, fill slopes shall be inclined no greater than 65 percent.

DRAFT "ROAD RULES" FSOR

COMMENTS:

1. Backslope and fill slope measurements should be presented in fractional ratios, instead of percent figures.
2. 65% could be flatter than the angle of repose, and fill slopes should be appropriate for the parent material composing the fill. Fills can be much steeper than 1½ : 1, which is the equivalent of 67%, particularly in fractured bedrock or talus, and in mechanically stabilized earth (MSE) or geosynthetically reinforced soil (GRS) walls."

Board Response:

The Board did not adopt these comment recommendations. The Board finds that the adopted rule language included as part of the Road Rules, 2013 rule package provides sufficient clarity and environmental protection. Considerable expert advice was obtained from California Geological Survey staff regarding this rule requirement. If an issue was raised by a reviewing agency, the Registered Professional Forester can propose an exception under 14 CCR Section 923 [943, 963] (c).

Rule Text Edit: No

Comment L9-16: Chris Quirmbach/Chris Eades, Michigan-California Timber Company.

"(k) Logging roads or landings shall not be constructed or reconstructed under saturated soil conditions that may produce significant sediment discharge, except that construction may occur on isolated wet spots arising from localized ground water such as springs, provided measures are taken to prevent significant sediment discharge.

COMMENTS:

1. The definition of a spring in the Forest Practices rules is lacking.

Board Response:

See the response to Comment L9-4.

Rule Text Edit: No

Comment L9-17: Chris Quirmbach/Chris Eades, Michigan-California Timber Company.

"(m) On slopes greater than 50 percent for greater than 100 lineal feet, fills greater than four feet in vertical height at the outside shoulder of the logging road or landing shall be:

(1) Constructed on a bench that is excavated at the proposed toe of the fill and is wide enough to compact the first lift.

(2) Compacted in approximately one-foot lifts from the toe to the finished grade or retained by an engineered structure.

COMMENTS:

DRAFT "ROAD RULES" FSOR

1. The adjective "lineal" is incorrectly used in the regulation. This is a term that is associated with genealogy or heritage, and not with distance. Try "horizontal" distance instead.
2. There is no indication in the rule that the proposed 1½ : 1 fill slope is waived for an engineered structure. Engineered structures should also include engineered-in-place rock walls. Fill slope requirements should be waived and restricted to that slope which improves the overall stability of the road."

Board Response:

See the response to Comment L9-9. The Board finds that the adopted rule language included as part of the Road Rules, 2013 rule package provides sufficient clarity and environmental protection. Considerable expert advice was obtained from California Geological Survey staff regarding this rule requirement. If an issue was raised by a reviewing agency, the Registered Professional Forester can propose an exception under 14 CCR Section 923 [943, 963] (c).

Rule Text Edit: No

Comment L9-18: Chris Quirnbach/Chris Eades, Michigan-California Timber Company.

"(s) In watersheds with listed anadromous salmonids and in planning watersheds immediately upstream of, and contiguous to, any watershed with listed anadromous salmonids, the following shall apply:

(1) On slopes greater than 50 percent that have access to a watercourse or lake: for all logging road construction.

(B) Where cutbank stability is not an issue, logging roads may be constructed as a full-benched cut (no fill). Spoils not utilized in logging road construction shall be disposed of in stable areas with less than 30 percent slope outside of any WLPZ, EEZ, or ELZ designated for watercourse or lake protection. The Director, with concurrence from other responsible agencies, may waive inclusion of these measures where the RPF can show that slope depressions and other natural retention and detention features are sufficient to control overland transport of eroded material.

COMMENTS:

1. **(s)(1)(B)** is too verbose. The slope restriction for spoil disposal sites is unnecessary. The language should state that it should be disposed of in stable areas outside riparian buffers and allow for professional judgment by the RPF. Strike the last sentence."

Board Response:

The Board did not adopt these comment recommendations. The Board finds that the adopted rule language included as part of the Road Rules, 2013 rule package provides sufficient clarity and environmental protection. If an issue was raised by a reviewing agency, the Registered Professional Forester can propose an exception under 14 CCR Section 923 [943, 963] (c).

Rule Text Edit: No

Comment L9-19: Chris Quirnbach/Chris Eades, Michigan-California Timber

DRAFT "ROAD RULES" FSOR

Company.

"Amend § 923.5 [943.5,963.5]. Erosion Control for Logging Roads and Landings Landing Construction.

(g) Where outsloping and rolling dips are used to control surface runoff, the dip in the logging road grade shall be sufficient to capture runoff from the logging road surface. The steepness of cross-slope gradient in conjunction with the logging road or landing gradient and the estimated soil erosion hazard rating shall be used to determine the rolling dip spacing in order to minimize soil erosion and sediment transport and to prevent significant sediment discharge.

COMMENTS:

1. "Surface runoff" is a new term not defined in the Forest Practices rules."

Board Response:

See the response to Comment L9-4.

Rule Text Edit: No

Comment L9-20: Chris Quirmbach/Chris Eades, Michigan-California Timber Company.

"(n) Where the natural ability of ground cover within a WLPZ is inadequate to protect the beneficial uses of water by minimizing soil erosion or by filtering sediments, the plan shall specify protection measures to retain and improve the natural ability of the ground cover to filter sediment and minimize soil erosion.

COMMENTS:

1. This rule suggests that the plan develop measures to fix what could potentially be a naturally occurring source of sediment in a WLPZ. While it may be important to recognize these areas in the THP, I do not feel it should be a requirement for anyone to "improve the natural ability of the ground cover to filter sediment and minimize erosion", especially in undisturbed areas. Taking action in undisturbed areas to minimize naturally occurring erosion should strictly be a voluntary endeavor. This comment also applies to § 923.5 [943.5,963.5] (q)(3)(f)."

Board Response:

See the response to Comment L9-13.

Rule Text Edit: No

Comment L9-21: Chris Quirmbach/Chris Eades, Michigan-California Timber Company.

"Amend § 923.6 [943.6, 963.6]. Use of Logging Roads and Landings Conduct of Operations on Roads and Landings.

(h) In watersheds with listed anadromous salmonids and in planning watersheds immediately upstream of, and contiguous to, any watershed with listed anadromous salmonids, the following shall apply:

DRAFT "ROAD RULES" FSOR

(1) Existing logging roads or landings shall not be used within the CMZ of a Class I watercourse except as listed in 14 CCR § 916.9 916.9 [936.9, 956.9] subsection (e)(1)(A)-(F) or pursuant to 14 CCR § 916.9(v) [936.9(v), 956.9(v)].

COMMENTS:

1. Categorically restricting use of existing logging roads in CMZ's for purposes other than those stated in **14 CCR § 916.9 916.9 [936.9, 956.9] subsection (e)(1)(A)-(F)** or pursuant to **14 CCR § 916.9(v) [936.9(v), 956.9(v)]** is not a viable or sensible solution. There is no stated exception for hauling of forest products, equipment, etc., particularly if it is a primary road and provides the primary access to conduct forest management activities on lands beyond where the road passes through the CMZ. Alternatives may exist for a road to avoid the CMZ, but could be so cost prohibitive and environmentally risky that a landowner essentially loses access and property value, not to mention the alternative may not even be possible due to ownership patterns. This rule ignores prescribed steps in § **923.5 [943.5,963.5]**, § **923.6 [943.6, 963.6]**, and § **923.7 [943.7, 963.7]** for maintaining adequate drainage, road surfacing, and minimizing erosion.

The rule should not prevent continued use of existing roads in CMZ's for ongoing management activities if they are up to standard.”

Board Response:

The Board did not adopt these comment recommendations. The Board finds that the adopted rule language included as part of the Road Rules, 2013 rule package is needed for sufficient environmental protection. This is essentially existing rule language that has been in existence since 2010 without causing significant problems or issues for the regulated public. If an issue was raised by a reviewing agency regarding use of an existing road within a CMZ, the Registered Professional Forester can propose an exception under 14 CCR Section 923 [943, 963] (c).

Rule Text Edit: No

Comment L9-22: Chris Quirnbach/Chris Eades, Michigan-California Timber Company.

“Amend § 923.9 [943.9, 963.9]. Roads and Landings in Watersheds with Listed Anadromous Salmonids. [All Districts] Watercourse Crossings [All Districts]

COMMENTS:

1. This section on watercourse crossings should be incorporated into the proposed § **923.4 [943.4, 963.4]**, and edited to control redundancy within the Forest Practices rules.”

Board Response:

The Board did not adopt these comment recommendations. The Board finds that the adopted section for watercourse crossings included as part of the Road Rules, 2013 rule package is required to provide sufficient clarity and enforceability, and does not require modification. Past forest practice-related water quality monitoring work has shown that watercourse crossings and their associated road approaches are significant problem areas that require improved rule implementation. By having a dedicated section for watercourse crossings, the Board has illustrated the importance of watercourse crossings for environmental protection.

DRAFT "ROAD RULES" FSOR

Rule Text Edit: No

Comment L9-23: Chris Quirmbach/Chris Eades, Michigan-California Timber Company.

“§ 923.9 [943.9, 963.9](p)(2) *The excavated material and any resulting cut bank shall be no greater than 65 percent (1.5:1, horizontal to vertical) from the outside edge of the constructed channel to prevent slumping, and to minimize soil erosion and sediment transport, and to prevent significant sediment discharge. Exposed soil located between the watercourse crossing and the nearest adjacent drainage facility or hydrologic divide, whichever is closer, including cut banks and excavated material, shall be stabilized by seeding, mulching, rock armoring, replanting, or other suitable treatment to prevent soil erosion and significant sediment discharge.*”

COMMENTS:

1. To remain consistent with the rules and other measurements taken in the riparian zone, the reference to the “outside edge of the constructed channel” should be revised to “...the watercourse transition line of the constructed channel.””

Board Response:

The Board did not adopt this comment recommendation. The Board finds that this adopted rule requirement included as part of the Road Rules, 2013 rule package is required to provide sufficient clarity and enforceability, and does not require modification. The watercourse transition line definition included in 14 CCR Section 895.1 refers to a change in vegetation type, physical indicators of scour, and a change in the size distribution of surface sediments, all of which are inappropriate indicators for a highly disturbed channel environment, such as occurs where a crossing fill is excavated with heavy equipment.

Rule Text Edit: No

Comment L9-24: Chris Quirmbach/Chris Eades, Michigan-California Timber Company.

“BOARD OF FORESTRY TECHNICAL RULE ADDENDUM NO. 5

I. Hydrologic Disconnection

A. Key Areas to Evaluate for Hydrologic Connectivity

COMMENTS:

1. The reference to steep hillslope gradients (e.g. >40%) is generally not consistent with steep slope descriptions elsewhere in the rules. Steep hillslopes are described as being around at 65% gradient.”

Board Response:

The Board did not adopt this comment recommendation. The Board finds that this adopted rule requirement included as part of the Road Rules, 2013 rule package is appropriate for Technical Rule Addendum No. 5, a guidance document. Roads in this

DRAFT "ROAD RULES" FSOR

section of the document were broken down into two categories—steep and not steep. As a first approximation for sediment transport, the delineation of 40% is appropriate.

Rule Text Edit: No

Comment L9-25: Chris Quirnbach/Chris Eades, Michigan-California Timber Company.

“BOARD OF FORESTRY TECHNICAL RULE ADDENDUM NO. 5

C. Design and Treatment Measures to Achieve Hydrologic Disconnection

COMMENTS:

1. 18” culverts should be the required minimum diameter culvert, nothing smaller.”

Board Response:

The Board did not adopt this comment recommendation. The Board finds that this adopted rule requirement included as part of the Road Rules, 2013 rule package is appropriate for Technical Rule Addendum No. 5, a guidance document, and that the suggested language is essentially the same as the adopted language: “In general, if ditch drain (relief) culverts are used, they are recommended to be at least 18 inches in diameter to lower the potential for plugging from soil and small woody debris.”

Rule Text Edit: No

Comment L9-26: Chris Quirnbach/Chris Eades, Michigan-California Timber Company.

“BOARD OF FORESTRY TECHNICAL RULE ADDENDUM NO. 5

II. Road Drainage, Energy Dissipation, Outsloping and Rolling Dips

COMMENTS:

1. Dissipater, not dissipator.”

Board Response:

Board staff has corrected this grammatical inaccuracy.

Rule Text Edit: Yes

Comment L10-1: Rob DiPerna, Industrial Forestry Reform Advocate, Environmental Protection Information Center (EPIC).

“The Environmental Protection Information Center (EPIC) presents the following comments in opposition to the 45-day notice of rulemaking “Road Rules 2013.” EPIC appreciates consideration of these comments as part of the rulemaking process.”

Board Response:

The Board acknowledges EPIC’s opposition to the noticed “Road Rules, 2013” rule package.

Rule Text Edit: No

Comment L10-2: Rob DiPerna, Industrial Forestry Reform Advocate, Environmental Protection Information Center (EPIC).

“The 45-day-noticed rulemaking package “Road Rules 2013” presents comprehensive reorganization and revisions to existing regulations governing roads, skid trails, landings, and watercourse crossings. While the “Road Rules 2013” package represents an overdue attempt to reorganize and improve regulations governing roads and related infrastructure, the proposed Rules fail to incorporate adequate measures to ensure that a comprehensive approach to road management will be applied by all landowners, large and small.”

Board Response:

The Board agrees with EPIC that the rule requirements approved as part of the Road Rules, 2013 rule package will provide for an overall net benefit in terms of needed reorganization and revisions for improved clarity and environmental protection. Additionally, the Board finds that the adopted rule requirements included as part of the Road Rules, 2013 rule package are sufficient to ensure a comprehensive approach to road management associated with projects submitted to the Department for review and approval.

Rule Text Edit: No

Comment L10-3: Rob DiPerna, Industrial Forestry Reform Advocate, Environmental Protection Information Center (EPIC).

“In particular, this package lacks the incorporation of a road management planning program that would comprehensively address planning, use, maintenance, and decommissioning of roads on an ownership or watershed-wide basis. This fundamental failure ensures that management and evaluation of the potential impacts from roads and related infrastructure are addressed only in a piece-meal, plan-by-plan manner rather than by a comprehensive and detailed approach. This further exacerbates the ongoing lack of adequate cumulative impacts review and mitigation for logging on private lands. Lack of a comprehensive approach raises substantial questions about the ability of the proposed regulations to achieve some of the Board’s stated objectives. In sum, while these proposed Rules may improve some existing provisions and performance standards, they ultimately fail to address critical issues related to roads and related infrastructure in a systematic and comprehensive manner.”

Board Response:

The Board finds that the existing California Forest Practice Rules contain multiple avenues to address road-related issues on an ownership or watershed-wide basis. These include a mandatory cumulative impacts assessment for watershed resources (i.e., 14 CCR Section 912.9 [932.9, 952.9]), including sediment effects, using a watershed assessment area. An ownership-wide Road Management Plan, 14 CCR Section 1093, may be used as part of the cumulative impacts assessment for timber operations proposed in a plan (note that a Road Management Plan cannot be made a separate pending requirement as a CEQA compliant document without statutory authority). Additionally, California Forest Practice Act Section 4553 specifies that the rules and regulations adopted by the Board are to be continuously reviewed and revised, allowing the regulated public the opportunity to suggest needed improvements in the future.

Rule Text Edit: No

Comment L10-4: Rob DiPerna, Industrial Forestry Reform Advocate, Environmental Protection Information Center (EPIC).

“There has still been much debate at the Forest Practice Committee (FPC) level about the need to reorganize and improve existing road-related regulations. After nearly 13 years of ongoing debate, discussion, and *ad nauseam* revisions, the proposed Rule language is simply incredulous. There is an overwhelming body of literature and anecdotal knowledge that clearly shows the need for the Board to comprehensively revise existing regulations. In particular, there is a tremendous body of research and other evidence that clearly demonstrates the negative effects of hydrologically connected roads and related infrastructure on hydrologic processes and the beneficial uses of water.

Attached hereto is a brief literature review on issues related to hydrologic connectivity of roads and related infrastructure, which outlines evidence which must be considered in evaluating the adequacy of the proposed rules. We believe the attached establishes the need for different rule changes to adequately address hydrological connectivity and provide comprehensive review to address road development and management, and related impacts and necessary mitigation and monitoring. (See Attachment A).

Finally, adequate rules are necessary to achieve the Board’s objective to achieve a three-pronged approach to developing Rules to address impaired watersheds and listed salmonids. This is long-overdue in order to bring the Forest Practice Rules (FPRs) in line with federally-identified standards for avoidance of “take” of listed salmonids. While it is clear that a more comprehensive and systematic approach is necessary (i.e. acquisition of a federal Habitat Conservation Plan (HCP) and a state Native Communities Conservation Plan (NCCP) with associated road management provisions) immediate steps are necessary to abate the risk of extinction for critically threatened and endangered listed salmonids in California.”

Board Response:

See the responses to Comments L10-3 and L10-8.

The Board finds that the rule requirements approved as part of the “Road Rules, 2013” rule package are sufficient to provide for hydrologic disconnection to minimize sediment delivery and hydrologic change derived from road runoff that is routed to a watercourse. The Board agrees with EPIC that adequate rules are necessary to achieve the Board’s objective to achieve a three-pronged approach for developing Rules to address impaired watersheds and listed anadromous salmonids. Specifically, the rule requirements approved as part of the Road Rules, 2013 rule package are an integral part of the “three-legged stool” described by the regulatory agencies in 2008 for recovery of listed anadromous salmonids—that being the Anadromous Salmonid Protection (ASP) rules for improved riparian conditions adopted by the Board in 2009, these Road Rules, and cumulative impacts assessment improvement currently under discussion in the Board’s Forest Practice Committee.

Rule Text Edit: No

Comment L10-5: Rob DiPerna, Industrial Forestry Reform Advocate, Environmental Protection Information Center (EPIC).

DRAFT "ROAD RULES" FSOR

“The proposed Rules do represent an improvement over existing Rules via defining, codifying, and providing guidance for implementation (i.e. Technical Rule Addendum #5) of hydrologic disconnection for roads and related infrastructure.

Adequately addressing hydrologic disconnection is vital to the achievement of the Board’s objectives to minimize and mitigate to the extent feasible the impacts of roads and related infrastructure on hydrologic processes and the beneficial uses of water. Clearly defining hydrologic disconnection and providing guidance for implementation to the regulated public in the form of Technical Rule Addendum #5 represents a clear improvement in performance standards for roads and related infrastructure. Provisions in the proposed Rules designed to guide and regulate road construction, reconstruction, maintenance, and abandonment may also improve circumstances on the ground.”

Board Response:

The Board agrees with EPIC that the rule requirements approved as part of the “Road Rules, 2013” rule package, including Technical Rule Addendum No. 5, represent an improvement over the existing rules for providing guidance on implementation of hydrologic disconnection for roads, as well as proper road drainage and watercourse crossing design to reduce the risk of catastrophic failure.

Rule Text Edit: No

Comment L10-6: Rob DiPerna, Industrial Forestry Reform Advocate, Environmental Protection Information Center (EPIC).

“However, the proposed Rules are inadequate in several key areas. These include:

- Failure to require consultation with geologists or other qualified experts for road-related activities to be conducted on slide-prone or unstable areas, including headwall swales.
- Failure to re-insert existing provisions of 14 CCR 919.9(o) “Erosion Site Identification and Remedies,” currently a required provision of the ASP Rules.
- Failure to provide adequate measures to ensure successful implementation and enforcement for intent language contained in proposed Rule section 14 CCR 923.1 [943.1, 963.1](a)(1) (Reduction of duplicitous roads and total road mileage).
- Removal of nearly all references to requirements for foresters and landowners to take “proactive measures” to address sediment and erosion control that were contained in the 90-day notice issued December 23, 2011.
- Failure to incorporate requirements for comprehensive transportation system planning and management (i.e. road management plans).
- Failure to provide adequate prescriptive measures to address operations on saturated soils, unstable areas, and during wet weather (including winter) periods.
- Inclusion of provisions to allow for alternative and non-standard practices if explained and justified.”

Board Response:

DRAFT "ROAD RULES" FSOR

The Board did not adopt changes to the "Road Rules, 2013" rule package that address these issues. The Board finds that the adopted rule requirements included as part of the Road Rules, 2013 rule package are sufficient to address the issues raised above.

Specifically regarding the issue raised about the failure to require consultation with geologists, the California's Professional Foresters Law (PFL), Section 752, specifies that a Registered Professional Forester is licensed to perform forestry services only in areas of expertise in which the person is fully competent as a result of training or experience. This means that if the RPF is unable to make required assessments for road-related activities to be conducted on slide-prone or unstable areas, including headwall swales, a Professional Geologist must be consulted (also see: "The Professional Foresters Law and the role of the Registered Professional Forester in Managing California's Forests," available at:

http://bofdata.fire.ca.gov/professional_foresters_registration/about_seebox/role_rpf_2013.pdf).

Regarding the comment addressing the re-insertion of existing provisions of 14 CCR Section 919.9(o) "Erosion Site Identification and Remedies, the Board finds that the adoption of 14 CCR Section 923.1 [943.1, 963.1] (e), which requires significant existing and potential erosion sites associated with all logging roads and landings in the logging area, to be a significant improvement over the existing rule requirement, since this regulation is made statewide, not just for the areas covered by the Anadromous Salmonid Protection Rules.

Regarding the comment addressing the issue of failure to provide adequate measures to ensure successful implementation and enforcement for intent language contained in proposed Rule section 14 CCR 923.1[943.1, 963.1](a)(1), the Board finds that review occurring during Pre-Harvest Inspections of submitted plans by the reviewing agencies and Departmental approval is sufficient to address this concern.

Regarding the comment addressing the removal of nearly all references to requirements for foresters and landowners to take "proactive measures" to address sediment and erosion control that were contained in the 90-day notice issued December 23, 2011, the Board finds that the adoption of 14 CCR Section 923.1 [943.1, 963.1] (e), which requires significant existing and potential erosion sites associated with all logging roads and landings in the logging area, to: (1) be a significant improvement over the existing rule requirement, since this regulation is made statewide, not just for the areas covered by the Anadromous Salmonid Protection Rules, and (2) sufficient to address the issue of "proactive measures" raised by EPIC.

Regarding the comment addressing the failure of the rule package to incorporate requirements for comprehensive transportation system planning and management (i.e. road management plans), see the response to Comment L10-3.

Regarding the comment addressing the failure to provide adequate prescriptive measures to address operations on saturated soils, unstable areas, and during wet weather (including winter) periods, the Board finds that the adopted rule requirements included as part of the Road Rules, 2013 rule package are sufficient to address these issues. Performance-based rules are appropriate for these rule requirements given the inability to account for all conceivable situations with prescriptive standards.

DRAFT "ROAD RULES" FSOR

Regarding the comment addressing the inclusion of provisions to allow for alternative and non-standard practices if explained and justified, the Board finds that this is appropriate for allowing for needed flexibility in a state that has extremely diverse geomorphic conditions. Additionally, the Board finds that review occurring during Pre-Harvest Inspections of submitted plans by the reviewing agencies and required Departmental approval is sufficient to address this concern.

Rule Text Edit: No

Comment L10-7: Rob DiPerna, Industrial Forestry Reform Advocate, Environmental Protection Information Center (EPIC).

“The Board must take some action to address the chronic impacts of roads and related infrastructure on hydrologic processes, listed salmonids and other beneficial uses of water. The proposed Rule language will not achieve these objectives. Roads and related infrastructure must be addressed in a more comprehensive manner, and on an ownership-wide or watershed-wide basis. The proposed rules further exacerbate a piece-meal approach to review, implementation, and enforcement of road-related provisions and fail to address chronic significant adverse cumulative effects. EPIC requests that the Board revisit Article 6.9, 14 CCR 1093 et seq. (Road Management Plans) and revise this Rule section to adequately address cumulative impacts and increase its use and utility for landowners large and small.”

Board Response:

See the response to Comment L10-3.

Rule Text Edit: No

Comment L10-8: Rob DiPerna, Industrial Forestry Reform Advocate, Environmental Protection Information Center (EPIC).

EPIC – Literary Review: Hydrologic Disconnection

Introduction

“Among the goals of the Anadromous Salmonid Protection (ASP) rules, listed in 14 CCR §916.9, are (bold type added for emphasis):

Every timber operation shall be planned and conducted to protect, maintain, and contribute to restoration of properly functioning salmonid habitat and listed salmonid species. To achieve this goal, every timber operation shall be planned and conducted to:

- (1) Comply with the terms of a Total Maximum Daily Load (TMDL).*
- (2) **Prevent significant sediment load increase to a watercourse system or lake.***

The current Road Rules proposal (“Road Rules 2013,” publication dated August 23, 2013) introduces the concept of “hydrologic connectivity” and requires that forest roads be hydrologically disconnected, or have their hydrologic connectivity mitigated in the event that such disconnection cannot be accomplished. The Informative Digest/Policy Statement Overview for the rulemaking proposal states that “*The most significant benefit anticipated from the adoption of the regulation is increased or improved hydrologic disconnection of road networks and watercourse crossings from associated watercourses.*” In the proposal, “hydrologic disconnection” is defined as “...*the removal of direct routes of drainage or overland flow of road runoff to a watercourse or lake.*” The concept of “hydrologic connectivity” and its adverse contribution to the sediment

prevention goals of the ASP rules is further explained and elaborated on in the next section.

Hydrologic Connectivity

It is well known that forest roads, while generally occupying a small fraction of a basin drainage area, contribute disproportionately to the basin peak flow and sediment discharge. Even unsealed roads contribute greatly to runoff intensity due to their compacted nature and poor infiltration (Croke and Hairsine, 2006).

Past reviews of road erosion and sediment delivery processes (Fu et al., 2010, McDonald and Coe, 2008), demonstrate that channels can also form within the road surface itself due to surface erosion that may not be adequately dissipated by the surrounding surface vegetation. Additionally, cutslopes, fillslopes and ditches can have their own contributions to sediment delivery. Montgomery (1994) also shows the effect roads can have on the initiation of shallow landslides, which can deliver significant sediment themselves.

The exact contribution of road-initiated runoff to stream sediment input depends on a number of factors: surface area, infiltration capacity and distance to a stream network. This latter factor can be thought of as being related directly to the hydrologic connectivity: how connected is the road to a stream (Furniss et al, 2000, Croke and Harsine, 2006, Bracken and Croke, 2007). These connections can be direct – e.g. direct runoff from a stream crossing or engineered drainage structure – or indirect as in the case of a gully that forms adjacent to a road and is able to carry sediment to the stream prior to infiltration occurring (over land flow becomes in channel flow). Purely overland flow is sometimes referred to as “diffuse flow” to distinguish it from channel or gully flow (Croke, et al, 2005).

Roads do not always interact with the basin stream network; their interaction depends on both the arrangement of the roads and the amount of precipitation to be dissipated. The primary contributors to hydrologically connected roads are stream crossings, and the development of gullies as a result of localized runoff contributions (Jones, 2000). The state of thinking with regard to hydrologic connectivity is well described by the short CAL FIRE science review from 2010 (Coe and Cafferata, 2010): “*There is no disagreement in the literature that it is highly beneficial to hydrologically disconnect forest roads from stream systems, thereby eliminating a direct input of fine sediment.*”

In a study of the road networks in the Sierra Nevada over the time period 1999 – 2002, (Coe, 2006) it was found that “*Twenty-five percent of the surveyed road length was connected to the channel network. Stream crossings accounted for 59% of the connected road segments, and gullying accounted for another 35% of the connected road segments.*” In this study, the author recommends a number of management objectives to limit road to stream connectivity and these are echoed in further studies (McDonald and Coe, 2008). These recommendations include: moving roads as far as possible away from stream networks, minimizing the number of stream crossings, shortening road segments, outsloping roads, and limiting road traffic – especially during the wet season.

Some of these management recommendations were further elaborated on in the CAL FIRE 2010 science review (Coe and Cafferata, 2010). As there is no doubt that locating

DRAFT "ROAD RULES" FSOR

roads near stream networks will lead to their hydrologic connectivity, the authors attempted to find support for a reasonable regulatory distance.

The required buffer distance depends on whether sediment results from mass wasting or surface erosion. As failure of hillslopes, which is likely to be primarily responsible for mass wasting events, was felt to be addressed by other regulatory measures, the authors concentrated on surface erosion. Their review of the literature indicated surface erosion travel distances of 100 – 600 ft (Coe and Cafferata, 2010). The surface sediment can travel via diffuse sediment plumes or via gullies (Coe, 2006, Croke, et al, 2005), and the concentration of sediment in a plume or gully can be modeled as an exponential decay (Croke, et al, 2005), indicating that under some conditions sediment will travel much greater distances than those shown above.

In addition to the distance separating the road from a stream, the probability of sediment reaching a stream via diffuse or channel flow depends on a number of factors, including erosion potential of the soil, grade of adjacent topography, and traffic volume (Croke, et al 2005, Coe, 2006). Also discussed in the 2010 CAL FIRE review are the effects of watercourse crossing design and construction, and surfacing of logging roads (Coe and Cafferata, 2010).

Additional Rules Are Needed

While there are requirements in the current Forest Practice Rules (FPRs) related to hydrologic connectivity of roads, there are no current requirements for hydrologic disconnection or the mitigation of its effects. To again quote from the Informative Digest for the rulemaking proposal: "*The current Forest Practice Rules contain a definition for "hydrologic disconnection," however application of this term for practical purposes has been lacking for some time.*" Additionally, Cafferata and Brandow (2010), in their analysis of HMP and MCR monitoring program results, note a lack of implementation and effectiveness of current FPRs:

Combining results from both the HMP and the MCR monitoring programs approximately 5% of the road drainage structures had problems. These programs found that between 8 and 15% of the road erosion features delivered sediment to stream channels, nearly always where the rules had been improperly implemented. Also, significantly, approximately 20% of the watercourse crossings had major implementation and or effectiveness problems.

Further, the National Marine Fisheries Service, in their 5 year review of Central and Northern California Steelhead, report that despite the adoption of the ASP rules in 2010, "*The effects of past and present timber harvest operations still represent a threat to steelhead in this DPS.*" In commenting on the current FPRs, while taking into account the Green Diamond and Humboldt Redwoods Habitat Conservation Plans (HCPs), the service states (bold type added for emphasis):

Despite the benefits to anadromous salmonid habitat resulting from implementation of the HRC and GDRC HCPs, timber harvest within the range of the NC steelhead DPS continues to be a threat. NMFS staff have actively engaged and participated in BOF meetings and expressed concern to the BOF that the ASP rules, while resulting in some improvements to riparian protections, will not adequately protect anadromous salmonids until several inadequacies in the FPRs are addressed. Specifically, NMFS believes that

DRAFT "ROAD RULES" FSOR

take of listed salmonids associated with timber harvest operations in California could be minimized (but not entirely avoided) if the following additional protections were added to the existing ASP rules: (1) provide Class II-S (standard) streams with the same protections afforded Class II-L (large) streams, (2) **include provisions to ensure hydrologic disconnection between logging roads and streams, and (3) include provisions to avoid hauling logs on hydrologically connected streams during winter periods.** In addition NMFS believes the use of scientific guidance will provide additional limitations in the rate of timber harvest in watersheds to avoid cumulative impacts of multiple harvests, and provide greater protections to ensure the integrity of high gradient slopes and unstable areas. This may include limiting the areal extent of harvest in such areas.

Summary

There is ample support in the scientific literature for the idea that the hydrologic connectivity between roads and watercourses will increase the introduction of fine sediment into sensitive waterways. As we have pointed out above, this is clearly stated in the CAL FIRE science review (Coe and Cafferata, 2010). Supported management implications are: proper construction and surfacing of roads, placement of roads away from streams, and limitations on the traffic intensity.

There is also ample evidence that the current FPRs do not sufficiently mitigate the sediment thusly introduced, and should be amended to take into account the potential hydrologic connectivity of logging roads.

References

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DRAFT "ROAD RULES" FSOR

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MacDonald, L.H. and Coe, D.R., "Road Sediment Production and Delivery: Processes and Management", Proceedings of the First World Landslide Forum International Programme on Landslides and International Strategy for Disaster Reduction United Nations University Tokyo Japan (2008)

Montgomery, D.R., "Road surface drainage, channel initiation and slope instability", *Water Resources Research*, 30, 1925 - 1932 (1994).

North-Central California Coast Recovery Domain 5-Year Review Summary and Evaluation of Central California Coastal Steelhead DPS and Northern California Steelhead DPS, National Marine Fisheries Service, (2011)."

Board Response:

The Board acknowledges EPIC's efforts to product the literature review addressing issues related to hydrologic connectivity of roads and related infrastructure, labeled as Attachment A. While Attachment A provides a reasonable review of some of the available literature on hydrologic connectivity, the Board finds that it does not document a need for alternate rule requirements to adequately address this topic. In contrast, the Board finds that the adopted rule requirements included as part of the "Road Rules, 2013" rule package are sufficient to address hydrologic connectivity.

Specific reasons for this conclusion are:

(1) hydrologic disconnection is mandated in the following adopted rule sections—14 CCR Sections 923.2 [943.2, 963.2], 923.4 [943.4, 963.4], 923.5 [943.5, 963.5], 923.7 [943.7, 963.7], and 923.9 [943.9, 963.9], illustrating that importance of this requirement;

(2) proper application of this requirement is addressed in adopted Technical Rule Addendum No. 5, providing guidance to the regulated public, and again illustrating the importance assigned to this regulation;

(3) 14 CCR Section 923.1 [943.1, 963.1] (b) requires no logging roads or landings to be planned for construction within 150 feet of the Class I watercourse transition line (WTL) or within 100 feet of the Class II WTL on slopes >30%, providing adequate filtration zones for road runoff, particularly for out-sloped roads with rolling dips;

(4) numerous recommendations reduce sediment transport to watercourses from roads

DRAFT "ROAD RULES" FSOR

related to hydrologic disconnection are incorporated in the adopted Roads Rules, 2013 rule package (in addition to the requirement for hydrologic disconnection), including 14 CCR Section 923.1 [943.1, 963.1] (a)(2)—minimize the number of logging road watercourse crossings, 14 CCR Section 923.2 [943.2, 963.2] (a)(4)—logging roads are to be outsloped where feasible and drained with waterbreaks and/or rolling dips, 14 CCR Section 923.6 [943.6, 963.6] (b) and (c)—logging roads are not to be used during any time of the year when operations may result in significant sediment discharge to watercourses and lakes..., and during the extended wet weather period, log hauling or other heavy equipment uses shall be limited to logging roads and landings that exhibit a stable operating surface...

(5) the requirement for at least one Department monitoring inspection of logging roads and landing conditions during the prescribed maintenance period (14 CCR 92.37 [943.7, 963.7] (k), ensuring improved implementation of the approved road rule requirements.

Rule Text Edit: No

Comment L11-1: Eric Carleson, Executive Director, Associated California Loggers (ACL).

"Associated California Loggers (ACL) respectfully wishes to express its Position (as listed above) to the Road Rules 2013 Proposal: We urge that the Board of Forestry approve "Alternative 2": Adopt Only Board Technical Rule Addendum Number 5."

Board Response:

The Board acknowledges ACL's position that the Board adopt only Technical Rule Addendum Number 5. However, the Board chose to adopt the entire rulemaking proposal with minor editorial and grammatical revisions.

Rule Text Edit: No

Comment L11-2: Eric Carleson, Executive Director, Associated California Loggers (ACL).

"...we believe that the Board of Forestry should make sure that any major changes to regulations reflect real science, and a provable need to expand what is already the most complex volume of forest practice rules in the nation, if not the world. Moreover, in that Associated California Loggers represents, among other entities, the builders of logging roads, we have found that these professionals have years of experience at doing exactly that which the Road Rules package contemplates and that, in general, these builders do not see the need for a major changes to the road-building techniques which have served the timber community well for many years, unless it can be demonstrated that such changes are necessary and cost-effective."

Board Response:

Much of the adopted "Road Rules, 2013" rulemaking proposal is a restating and reorganizing of existing rule sections. The fundamental change between the existing and newly adopted rules is the statewide expansion of the requirement for "hydrologic disconnection" of all roads, landings, and watercourse crossings from watercourses. This has been a Coast Forest District-only requirement since the Board's adoption of the Threatened or Impaired Watershed rules in the late 1990's and the successor Anadromous Salmonid Protection rules adopted in 2009.

DRAFT "ROAD RULES" FSOR

The importance of hydrologic disconnection is in part borne from the results of harvesting plan monitoring since 1996 by the Department of Forestry and Fire Protection, and its state agency partners under the auspices of the Board's Monitoring Study Group (MSG). The MSG has reported on monitoring conducted under the "Hillslope Monitoring Program," "Modified Completion Report Monitoring Program," and "Interagency Mitigation Monitoring Program." In general, these monitoring efforts have revealed roads, road approaches, and watercourse crossings as the primary mechanisms for sediment deposition into watercourses. The results of this collective monitoring and research point to a high level of Forest Practice Rule compliance and operator performance over time. Nevertheless, sediment transport to watercourses was still found to have occurred, in some instances even where Rule implementation was not at issue.

While further training on the concept of hydrologic disconnection and the adopted "Road Rules" is anticipated to occur in early 2014, hydrologic disconnection has been in practice in the Coast Forest District for at least a decade. It is consistent with the current state-of-the-art in road and watercourse crossing construction and maintenance. At least some proportion, if not all, of ACL's member operators have likely conducted disconnection to some degree—perhaps most commonly through the appropriate placement of waterbreaks.

Rule Text Edit: No

Comment L11-3: Eric Carleson, Executive Director, Associated California Loggers (ACL).

"I. ASSOCIATED CALIFORNIA LOGGERS IS CONCERNED THAT ITS EXISTING PROTECTIONS IN REGULATION FOR LICENSED TIMBER OPERATORS FROM RESPONSIBILITY FOR ROAD PROJECTS NOT BE TAKEN AWAY.

The heading and language of Existing Section 923.7(943.7, 963.7) is proposed for deletion without substitution. These read as follows: ***'Licensed Timber Operators Responsibility for Roads and Landings (All Districts). The licensed timber operator who is responsible for the implementation or execution of the plan shall not be responsible for the construction and maintenance of roads and landings, unless the licensed timber operator is employed for that purpose.'***

We have been told by BOF staff that this language was deleted on determination of the Forest Practice Committee that "far more comprehensive" Existing Sections 1035.1 - 1035.3 cover the language above, and, as last revised in 2000, effectively render existing 923.7 redundant.

However, in our reading of Sections 1035.1 through 1035.3, we do NOT see language indicating that " the licensed timber operator who is responsible for the implementation or execution of the plans shall not be responsible for the construction or maintenance of roads and landings, unless the licensed timber operator is employed for that purpose." Nor do we see any equivalent language to offer the same degree of protection from responsibility to the licensed timber operator.

There are two possible solutions to this problem:

DRAFT "ROAD RULES" FSOR

- 1. Add the language of Existing 927. 3 into 1035.1, 1035.2 and 1035.3 OR**
- 2. Do not adopt the proposed amendments at all, thus restoring Existing 927.3 in law."**

Board Response:

The Board chose to restore the language of existing rule Section 923.7 [943.7, 963.7] in response to ACL's comment. It also expressed a desire to consider a future rulemaking proposal consolidating the language of Section 923.7 into Section 1035.1.

Rule Text Edit: Yes

Comment L11-4: Eric Carleson, Executive Director, Associated California Loggers (ACL).

"II. ASSOCIATED CALIFORNIA LOGGERS SUPPORTS THOSE SECTIONS OF THE "ROAD RULES" PACKAGE THAT STREAMLINE AND REORGANIZE EXISTING ROAD RULES. It is our understanding that the "Road Rules" package began its life as an attempt to streamline and re-organize existing Forest Practice Rules so that professionals such as the Licensed Timber Operators who implement these rules could more easily find the road rules in consolidated sections of the rule book. This was a salutary rationale for taking this action. Former Governor Schwarzenegger and current Governor Brown have both staked out the need to streamline government regulation as a goal in their administrations, under which these rules have been fashioned. **Associated California Loggers can support the re-organization and consolidation provisions of the Road Rules package."**

Board Response:

The Board acknowledges and appreciates Associated California Loggers' support for the reorganization element of the adopted rulemaking proposal.

Rule Text Edit: No

Comment L11-5: Eric Carleson, Executive Director, Associated California Loggers (ACL).

"III. ASSOCIATED CALIFORNIA LOGGERS IS CONCERNED ABOUT THE EXPANSION OF PRESCRIPTIVE FOREST PRACTICE RULES.

It became clear with each month of review and discussion of the Road Rules package that, for better or worse, various stakeholders saw the charge of streamlining the Road Rules as an opportunity to "add more pages to the rulebook."

We note the following language at page two, of the August 23, 2013 Initial Statement of Reasons:

*`This regulation is intended to satisfy two long-term objectives of benefit to the regulated public, regulatory agencies, the general public, and the natural resources of the state. **The first of these objectives is to ensure that all road-related Forest Practice Rules are adequate to prevent adverse impacts to the beneficial uses of water. The second objective is to organize all road-related Forest Practice Rules into a logical, consistent order and locate them in one portion of the Forest Practice Rulebook for ease of reference and understanding of all.**"* (Emphasis ours.)

DRAFT "ROAD RULES" FSOR

It would seem that somewhere along the road, the idea of re-organizing and streamlining the existing Road Rules became a "second" objective in the service of a first objective of increasing the volume and complexity of the very rules that are intended to be streamlined. This is counterproductive.

At a meeting of the Board of Forestry Forest Practice Committee to consider the portion of the road rules that would add additional road-rocking requirements to timber operations, back in late March of 2011, Associated California Loggers submitted a letter, dated March 28, 2011, with the following position:

(BEGIN ASSOCIATED CALIFORNIA LOGGER COMMENTS OF MARCH 28, 2011) "At a time when our Governor and the leadership of both parties of the Legislature are proposing vitally needed regulatory reform, and at a time when the **Sacramento Bee recently published a March 27, 2011 opinion piece entitled "Too Many Rules and Regs: State's Economic Health Depends on Regulatory Reform,"** come now these regulatory proposals which would add costs, shorten already prohibitively short harvesting seasons, and needlessly restrict operations that are already subject to the most extensive water quality regulations in the nation.

We are at a loss to determine the rationale for adding additional restrictions on the short harvesting season (a) before recently passed regulations, including saturated soils regulations passed in 2010 and Anadromous Salmonid Protection (ASP) Regulations passed not two years ago have been properly monitored and (b) when THP and water permits have similar protections.**(END ASSOCIATED CALIFORNIA LOGGER COMMENTS OF MARCH 28, 2011.)**

Over two years later, more time has passed to see where the ASP regulations stand, but everything else is pretty much in the same place in terms of laws already in place and active."

Board Response:

In December 2004, the Board established a new "Road Rules Technical Working Group" consisting of representatives from the State Departments of Forestry and Fire Protection, and Fish and Game (now Department of Fish and Wildlife), the State Water Resources Control Board, North Coast Regional Water Quality Control Board, Central Valley Regional Water Quality Control Board, California Geological Survey, National Marine Fisheries Service, the commercial timber industry, and the environmental activist community. This Group's assignment was to review and reorganize the existing Forest Practice Rules related to logging roads, landings, and watercourse crossings into a clear and concise package so that all such rules would reside in one location within the Forest Practice Rulebook.

The Group undertook this challenging task and two years later, in 2006, requested direction from the Board regarding the possible incorporation of new rule language to address "public safety." The Board subsequently directed the Group to include public safety as a specific component of the Rules for roads and road watercourse crossings.

In 2007, the Group submitted their proposed roads and watercourse crossings rule reorganization, with the new public safety component, to the Board's Forest Practice Committee for review and action. The Forest Practice Committee subsequently decided to place the Group's proposal on hold in order to address the State Legislature's

DRAFT "ROAD RULES" FSOR

competing concerns about Forest Practice Rule protections for listed anadromous salmonids.

In 2009 under continued pressure from the State Legislature, the Board adopted a comprehensive rulemaking proposal for protection of anadromous salmonids. This adopted rule set known as the "Anadromous Salmonid Protection Rules" ("ASP Rules") included new rule provisions for logging roads and watercourse crossings. The Board subsequently directed the Roads Rules Technical Working Group to incorporate the ASP Rules for road and watercourse crossings into the 2007 proposed roads and watercourse crossings rule reorganization package. Largely as a result of the ASP Rules adoption, the Board decided in late 2009 to undertake an assessment of the adequacy of the existing rules relating to logging roads and watercourse crossings. The Board directed its Forest Practice Committee to complete the evaluation with input from the Roads Rules Technical Working Group.

Then in 2010, the Board adopted an additional complicating rulemaking proposal identified as the "Operations on Saturated Soils and Stable Operating Surfaces" rule package. This package re-established the linkage between operations and avoidance of adverse impacts to water quality. These rules became effective in 2011.

Between 2010 and the present date, the Board's Forest Practice Committee completed a comprehensive, deliberative review of the Roads Rules Technical Working Group's proposal as modified by subsequent rule adoptions. This process included an initial 90-day Notice of Rulemaking in late 2011, and a field trip to the Coast Forest District. It likewise included publicly-noticed Committee meetings and workshops too numerous to mention. The process by which the "Road Rules, 2013" rulemaking proposal came to be adopted was exhaustive by any measure and included considerable input from all quarters. It should be noted the State Legislature has likewise been closely following this lengthy process.

The Road Rules have been referred to by state agency representatives as the "second leg" of a "three-legged stool," the first leg of which was the 2009 adoption of the ASP Rules. The third and final leg yet to come is the Board's review of the current process by which potential cumulative impacts from proposed harvesting activities are analyzed. Together, the "three legs" are intended to comprehensively address protection of the beneficial uses of water such that a high bar of resource protection as well as long-term regulatory certainty may be achieved. Since at least 2009, this has been the Board's aim, and the Board intends to monitor the results of these actions through its "Effectiveness Monitoring Committee" as implementation continues.

Rule Text Edit: No

Comment L11-6: Eric Carleson, Executive Director, Associated California Loggers (ACL).

"IV. ASSOCIATED CALIFORNIA LOGGERS IS CONCERNED ABOUT THE LACK OF DETERMINATIVE ECONOMIC IMPACT ANALYSIS OF THE PROPOSED EXPANSION OF PRESCRIPTIVE FOREST PRACTICE RULES.

We note the following language at page five of the August 23, 2013 Initial Statement of Reasons:

"Cost impacts on representative private persons or businesses:" The Board, during the noticing period, will continue to evaluate the cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action. ***The cost of timber harvest planning and operational mitigations may be significantly impacted by the proposed regulation. (Emphasis ours.)***

We note the following language at pages five-six of the August 23, 2013 Initial Statement of Reasons:

"EVIDENCE SUPPORTING FINDING OF NO SIGNIFICANT IMPACT ON ANY BUSINESS:

...The following economic impact analysis is intended to satisfy the requirements of the Administrative Procedures Act, Government Code Section 11346.3(b)

I. Will the proposed regulation create or eliminate jobs within the State of California?

The proposed regulation includes a number of amendments to existing regulations that are not expected to significantly affect jobs in California. The regulation includes a new Technical Rule Addendum intended to assist the regulated public and regulatory agencies with comprehension and compliance of new rule requirements.

Associated California Loggers Comment: While the amendments are "not expected" to significantly affect jobs in California, they nonetheless contain potentially costly prescriptive requirements which could — as an adjunct to costs added and harvesting days lost on any given timber operation — affect jobs in terms of how many workers can be hired to perform these operations. Note: the comment above offers us a "first glimpse" at the solution to this ambiguity: the new "Technical Rule Addendum."

V. Will the proposed regulation provide benefits to the health and welfare of California residents, worker safety, and the state's environment?

The regulation as proposed does not provide benefits to the health and welfare of California residents, or improve worker safety. (Emphasis ours.) It is possible that the regulation would be of some unknown benefit to the state's environment. However, it is not clear to what extent the regulation would alter the existing implementation and enforcement of regulations related to logging road networks and watercourse crossings. ***If adopted, monitoring of the differences between implementation of the pre-existing and revised regulations could expose a discernible difference in environmental protection.(Emphasis ours.)***

Associated California Loggers Comment: Even as other parts of the "Initial Statement of Reasons" indicate likely costs to the timber industry and its workers as a result of these amendments, here we learn that these amendments do not provide health and welfare benefits to California residents, nor necessarily benefit to the state's environment without monitoring, and as we know, monitoring invokes its own costs. Again, there is the possible "save" of the "Technical Rule Addendum" as a means of establishing a framework for monitoring.

V. What is the estimated expense of proposed regulation upon those most affected?

DRAFT "ROAD RULES" FSOR

Commercial timberland owners and managers are the most likely to be affected by the regulation. However, it is unclear to what extent the proposed regulation would alter the existing costs for timber harvesting permitting and regulations.

(Emphasis ours.) Those who choose to conduct commercial harvests of their timberlands are currently obligated to comply with the permitting and rule requirements of the State Forest Practice Act and Rules. This regulatory construct is fully compliant with the California Environmental Quality Act.

Associated California Loggers Comment: Here we have the recognition by board staff that BOTH "timber harvest planning" and "operational mitigations" may be "significantly impacted" by the regulation. This would indicate additional significant cost on TWO aspects of timber harvest: the planning of the harvest itself and mitigations required to meet the terms of the regulation. Given that at least one of those mitigations (additional road rocking requirements, see below) is identifiable as a driver of cost AND as taking away valuable days of harvest given California's required super-short harvest season, **we oppose those sections of the regulations, if prescriptive."**

Board Response:

In its tentative adoption of the rulemaking proposal, the Board directed staff to complete a more "robust" evaluation of the potential economic effects of the rule set. This economic evaluation is included in the Final Statement of Reasons.

The Board acknowledges ACL's opposition to any prescriptive portions of the adopted rulemaking proposal that may affect planning and operational costs, or otherwise shorten the existing logging season. The Board also notes ACL's reiteration of its recommendation the Board adopt only Technical Rule Addendum Number 5.

Rule Text Edit: No

Comment L11-7: Eric Carleson, Executive Director, Associated California Loggers (ACL).

V. ASSOCIATED CALIFORNIA LOGGERS IS CONCERNED ABOUT THE FINANCIAL IMPACTS OF INCREASED ROAD ROCKING REQUIREMENTS

It is difficult to pinpoint, within the proposed amendments, in how many sections and on how many occasions, "road rocking" will be seen as a necessary means of complying with these amended rules, particularly in relation to the centerpiece of the entire package: the need to maintain "hydrological disconnection" between logging roads and watercourses. But additional road rocking is clearly contemplated as part of the program for "improved watercourse protection" sought in this package.

We understand from our members that road rocking can add thousands of dollars to a contract (a key variable is: travel distance to and from the source of the rocks). And the work of applying the rocks to the road takes time. Additional road rocking requirements will have specific and negative impact on the ability of Licensed Timber Operators working for landowners to "get the job done" in the short time afforded them in a season, thus drawing away from their ability to earn income, their ability to contribute to the recovery of the devastated rural economy of California, and their ability to provide such benefits as fuels reduction to our state forests.

Moreover: we believe that these road rocking requirements are needlessly over-

DRAFT "ROAD RULES" FSOR

expansive of existing road rocking requirements which, we believe, have proven effective enough in preventing sediment from migrating from logging roads to watercourses. **As was noted by an official of the Board of Forestry staff when asked by Associated California Loggers at the March 2011 Forest Practice Committee review of the road rocking requirements, if passed, these requirements will lead to fewer days of timber harvest, as opposed to a greater number of days on a timber harvest project, or even as opposed to the same number of days on a timber harvest project.**"

Board Response:

The Board acknowledges the challenges in identifying how often road-rocking will be necessary and appropriate to achieve hydrologic disconnection. The adopted rulemaking proposal includes significant, though in some cases existing, performance-based provisions that incorporate road-rocking as an option. However, the Board does not concur with the statement of March 2011 indicating "fewer days of timber harvest" will result from the adopted rules. It seems more likely that the option of road-rocking will continue to be utilized as it has in contemporary times to arrest road surface soil movement. The attendant benefit of road-rocking is that logging operations and specifically log hauling may proceed for longer durations, thereby extending the annual harvest season.

Rule Text Edit: No

Comment L11-8: Eric Carleson, Executive Director, Associated California Loggers (ACL).

"VI. PROPOSED SOLUTION TO ALL CONCERNS EXPRESSED ABOVE: ADOPT ROAD RULES 2013 "ALTERNATIVE 2" PARTIAL ADOPTION OF PROPOSAL, ADOPT ONLY BOARD TECHNICAL RULE ADDENDUM NUMBER 5."

The above choice is presented in the August 23, 2013 Initial Statement of Reasons, at page 9:

"Alternative 2: Partial Adoption of Proposal — Adopt Only Board Technical Rule Addendum Number 5. This alternative would result in the Board's singular adoption of the newly drafted Technical Rule Addendum Number 5 — "Guidance on Hydrologic Disconnection, Road Drainage, Minimization of Diversion Potential, and High Risk Crossings."

All of the proposed amended and repealed rule sections contained in the noticed rule text would not be adopted and the existing rules related to roads and watercourse crossings would remain in their present condition and location.

Under this alternative, the Board's intentions with regard to the concept of hydrologic disconnection **would be in the form of guidelines rather than strictly enforceable rule requirements....(emphasis ours.)**

(Continued)...(G)iven the complexities associated with the rule proposal in terms of dual revision and reorganization, adoption of a guidance document could be viewed as an initial footing from which to expand the Board's efforts. **As such, this alternative remains viable for the Board's consideration following the October 7, 2013(sic) public hearing on the noticed rule proposal. " (Emphasis ours.)**

DRAFT "ROAD RULES" FSOR

VII. ASSOCIATED CALIFORNIA LOGGERS BELIEVES THIS ACTION SHOULD BE TAKEN BECAUSE:

1. **"Guidelines"** on the steps necessary to maintain "hydrological disconnection" will provide more flexibility to landowners, RPFs and LTOS in how to implement the key part of the proposed changes to the "Road Rules."
2. **"Guidelines" can** be used as the basis for classes to be offered to licensed timber operators and others in anticipation of "hydrological disconnection" efforts and other coming prescriptive dictates of a regulations should they pass in the future. Associated California Loggers already provides "ProLogger" logger certification courses on water quality practices, we would add these guidelines to the curriculum.
3. **"Guidelines"** would allow, as staff suggests, an "initial footing from which to guide the Board's efforts" on the development of further regulations, regulations which we would prefer to be performance-based rather than prescriptive.
4. **"Guidelines"** would allow landowners the latitude to determine how much additional work should be done — and if any is actually necessary — to afford the protections contemplated both by the Addendum and the proposed regulations.

These are tough years for our licensed timber operators in general. We are "secondary victims" of the slowdown in the housing market and the increase in fuel costs, and we are facing low prices for lumber and logs, along with numerous costs on our membership from increased government regulation.

One way in which our members can try to overcome these hurdles is to have as long a timber harvesting season as possible in which to earn a living. One way to maintain such a season — which is still the shortest of the American states to our knowledge — as long as possible, is to allow the "Road Rules" recommendations to sound first in "guidelines" that will give all of us the time and proper direction to implement needed changes in a later year, without sacrificing days of work to the confusion and unnecessarily burdensome prescriptive requirements of such a large volume of regulations.

We urge the Board of Forestry Forest Practice Committee to adopt Alternative 2: "Partial Adoption of Proposal — Adopt Only Board Technical Rule Addendum Number 5."

Board Response:

See response to Comment L11-1.

The Board appreciates and endorses Associated California Loggers' possible incorporation of Technical Rule Addendum Number 5 into its "ProLogger" logger certification course curriculum. As has been noted elsewhere in this Final Statement of Reasons, training and outreach during the initial implementation phase of the adopted Road Rules is of great importance.

DRAFT "ROAD RULES" FSOR

Rule Text Edit: No

Comment L12-1: Colin Noyes, RPF #2960, Big Creek Lumber Company.

"Big Creek Lumber Company would like to take this opportunity to thank the Board for its hard work developing this comprehensive rule package. We believe that a majority of the Road Rules provide for a level of professional flexibility required by Registered Professional Foresters when developing a harvest plan. However, we are concerned that this rule package will likely result in increased costs to landowners."

Board Response:

The Board acknowledges Big Creek Lumber Company's concern regarding the potential for increased costs to landowners as a result of the adopted rulemaking proposal.

Refer to response to Comment L11-6.

Rule Text Edit: No

Comment L12-2: Colin Noyes, RPF #2960, Big Creek Lumber Company.

"We feel that the definition of a "Public Road" should not be struck from 895.1. It is important have a working definition of Public Road in the Forest Practice Rules in order to maintain a necessary distinction between roads which are publically owned and roads which are solely under the control of a private owner."

Board Response:

Refer to response to Comment L9-1.

Rule Text Edit: Yes

Comment L12-3: Colin Noyes, RPF #2960, Big Creek Lumber Company.

"The last topic is the definition of the "Significant Sediment Discharge" found in 895.1. This definition, in its current form, indicates that a significant sediment discharge, and potential violation, could be determined if the receiving waters were visibly turbid. Although the sources of turbidity could be anthropogenic in nature, they could also easily be caused naturally in any number of ways. RPF's may be left trying to justify any increase in turbidity, even if that turbidity is not associated with their project, or if turbidity from their project is insignificant, but combined with elevated natural background levels, becomes significant. It is understandable that defining significant sediment discharge is a difficult task, but we feel that by simply striking the last sentence; "One indicator of a Significant Discharge is a visible increase in turbidity to receiving Class I,II,III, or IV waters" the Board could remove any reference to regulatory strategy from the definition and alleviate potential confusion and inappropriate enforcement actions."

Board Response:

Refer to responses to Comments L3-3 and L6-5.

Rule Text Edit: No

Comment L13-1: Michael Tadlock, RPF #2630, President, California Licensed Foresters Association (CLFA).

"895.1. Definitions, Significant existing or potential erosion site. Please consider the fact that we currently have to identify active erosion sites and controllable sediment

DRAFT "ROAD RULES" FSOR

discharge sources (CSDS) in the harvest plan process. The addition of a third category is only going to complicate the process even more. CLFA has spent the past 5 years working with the North Coast Regional Water Quality Control Board to develop the definition of a CSDS. Please consider using that definition within this package to reduce the amount of confusion and duplication of information.”

Board Response:

The Board acknowledges the confusion and duplication that could occur as a result of the adopted Road Rules term “Significant Existing or Potential Erosion Site” and the competing Regional Water Board term “Controllable Sediment Discharge Sources (CSDS).” However, the latter term’s use is limited to the jurisdiction of the North Coast Regional Water Quality Control Board whereas the adopted term is applicable statewide.

It does not appear this suggestion was ever brought forward in the numerous meetings culminating with the publication of the 45-day Notice of Rulemaking. It is possible the Board may wish to revisit this comment at some future point.

Rule Text Edit: No

Comment L13-2: Michael Tadlock, RPF #2630, President, California Licensed Foresters Association (CLFA).

“916.3 [936.3, 956.3](c)(93) page 11 line 4. Please consider the following modification; “At new and existing tractor road crossings...” The present proposed wording excludes any existing tractor road crossings that have been approved and installed as part of a Fish and Game Code process. This modification would allow for the use of such crossings without having to explain and justify each occurrence.”

Board Response:

The Board concurred with this comment and adopted the proposed minor revision of Section 916.3.

Rule Text Edit: Yes

Comment L13-3: Michael Tadlock, RPF #2630, President, California Licensed Foresters Association (CLFA).

“923.1 [943.1, 963.1](e)(4) page 25 line 2. The proposed rule language refers to “subsection (d)(1)” however there is no (d)(1) in the package under 923.1 [943.1, 963.1]. It would appear that the correct reference should be “(e)(1)” which requires the evaluation of roads for potential erosion sites. The modified wording should read: “The RPF shall disclose and map the significant existing and potential erosion sites identified per 14 CCR § 923.1 [943.1, 963.1], subsection (d)(e)(1), for which no feasible treatment exists.”

Board Response:

The Board adopted this minor reference correction to adopted rule Section 923.1 and appreciates CLFA’s assistance in improving the accuracy of the adopted rule text.

Rule Text Edit: Yes

Comment L13-4: Michael Tadlock, RPF #2630, President, California Licensed Foresters Association (CLFA).

DRAFT "ROAD RULES" FSOR

"923.1[943.1, 963.1](c) & 923.4[943.4, 963.4](b) and (c) page 27 lines 19 – 15 on page 28, While we understand the want to limit road building and reconstruction within the WLPZ of class I, II, III, and IV watercourses, in many instances this isn't possible or the alternative requires roads to be built in much more precarious locations. This is particularly a problem with smaller ownerships which might not own areas that would be more appropriate for road building. While there is an allowance within this rule package to propose deviations and alternatives, sometimes the more environmentally friendly option is actually to build or rebuild these roads in the WLPZ."

Board Response:

Refer to Comment L7-7 and the Board's response; refer as well to response to Comment L8-5.

Rule Text Edit: No

Comment L13-5: Michael Tadlock, RPF #2630, President, California Licensed Foresters Association (CLFA).

"923.5 [943.5, 963.5](a)(3)(C) page 42 line 7, "All logging roads and landing surfaces shall be adequately drained..." Please consider modifying this to read "All logging road and landing surfaces within the logging area shall be adequately drained..." Such a modification would make it clear that the roads and landings to address are those which are within, or appurtenant to, timber operations and not to the entirety of an ownership. This would also benefit situations in which a road may have been proposed for use but was not used due to a variety of factors including changes in log markets, type of yarding equipment or timing of harvest operations. In many cases these roads not used for operations may be overgrown with vegetation and show no signs of erosion."

Board Response:

The Board did not adopt CLFA's suggested revision to adopted rule Section 923.5(a). The adopted rule language appears sufficiently clear especially when viewed in the context of the intent language found in adopted rule Section 923. This intent language includes the desired modifier "within the logging area."

Rule Text Edit: No

Comment L13-6: Michael Tadlock, RPF #2630, President, California Licensed Foresters Association (CLFA).

"923.5 [943.5, 963.5] (q)(3)(C) page 46 line 15. Please consider the following modification; "Where slash mulch is applied, a minimum of 75% of the area shall be covered by slash in contact with the ground. ~~slash coverage in contact with the ground surface shall be a minimum of 75 percent.~~" This modification clarifies that the area to be mulched needs to have sufficient coverage to be effective."

Board Response:

The Board adopted CLFA's proposed revision and concurs this modification improves the clarity of the rule standard.

Rule Text Edit: Yes

Comment L13-7: Michael Tadlock, RPF #2630, President, California Licensed Foresters Association (CLFA).

DRAFT "ROAD RULES" FSOR

“Technical Rule Addendum #5, Figure 2, page 16, line 25. Please consider deleting the sentence “Note the absence of an apparent critical dip at the crossing.” It is possible that given the angle that the diagram appears to represent that in fact flow could be diverted to the ditch relief culvert on the right. However, it is not obvious that this would happen. In fact it appears also possible that flow would actually cross the road at the hinge of the fill slope between the crossing and the ditch relief culvert. Such a configuration is specifically identified as an appropriate location for a critical dip in Figure 7 on page 19. Figure 2 is intended to clarify hydrologic disconnection and it seems inappropriate to bring up the issue of whether or not it has a critical dip when the diagram is not a clear example of good, or bad, implementation.”

Board Response:

The Board did not adopt CLFA's recommended revision to Figure 2 in Technical Rule Addendum Number 5. As is stated in the short paragraph lead-in to the Tables and Figures, the "...table and figures are provided as examples to illustrate design concepts. These are not intended to serve as default performance standards." Regardless of the appearance of Figure 2 and the caption language below it, adopted rule Section 923.9(j) [943.9(j), 963.9(j)] specifies critical dips are to be incorporated into constructed or reconstructed watercourse crossings utilizing culverts unless diversion of overflow is addressed in some other manner.

Rule Text Edit: No

Comment L13-8: Michael Tadlock, RPF #2630, President, California Licensed Foresters Association (CLFA).

“CLFA supports appropriate levels of protection for the state’s natural resources while helping to keep our economy strong by maintaining a healthy forest products industry. In order to achieve these goals resource professionals in the field should be given the flexibility to develop protection measures that suit site-specific conditions. This rule package does allow for site-specific practices while providing substantial protection for the resources which may be impacted.”

Board Response:

The Board acknowledges CLFA’s observation regarding the adopted rule proposal’s pairing of flexible, site-specific performance standards with substantial resource protection.

Rule Text Edit: No

Comment L13-9: Michael Tadlock, RPF #2630, President, California Licensed Foresters Association (CLFA).

“Although this rule package does allow for flexibility and resource protection it is clear that many of the requirements will add substantial costs to timber operations throughout the state. CLFA is not in a position to comment on the extent, or impact, of these costs in detail. However, it is clear that such costs will have an impact on landowners possibly reducing the viability of managing some ownerships as timberlands. CLFA recommends that the Board consider carefully any comments received that address the issue of additional costs brought about by this potential rule package.”

Board Response:

Refer to response to Comment L11-6.

Rule Text Edit: No

Comment L14-1: David A. Bischel, President, California Forestry Association (Calforests).

"Winter Operating Plans now need to specifically address road issues.

Additional justifications for road-related operations during the winter period are now proposed pursuant to § 914.7 [934.7, 954.7] and in § 923.4 [943.4, 963.4] (l). These justifications may result in further restrictions or prohibitions of road-related winter operations. The current state-wide Forest Practice Rules require a Winter Operating Plan for winter operations, then add additional provisions to restrict road operations when saturated soil conditions may impact nearby water-quality standards. It is important to note that this saturated soil standard was specifically revised by the Board in 2010 when an issue with road use during saturated soil condition was initially raised. We believe this current standard works well, protects the resource and allows for operations when appropriate during the winter period. We fear that changes to the current standards for winter operations may result in additional road-related restrictions during the winter period when none are necessary."

Board Response:

The Board finds that the adopted rule requirements included as part of the Road Rules, 2013 rule package are required to address this issue. Numerous studies have documented the adverse impacts to water quality when wet weather tractor operations have taken place in forested environments.

Specifically, 14 CCR Section 914.7 [934.7, 954.7] (c) (1) still allows the RPF, in lieu of a winter operating plan, to specify that tractor yarding or use of tractors for constructing logging roads, landings, watercourse crossings, etc. will only occur during dry, rainless periods and that they will not be conducted on saturated soil conditions that may produce a significant sediment discharge. The Board finds that the Road Rules, 2013 regulations addressing winter operating regulations are not an undue burden on the regulated public and are necessary for adequate protection of the beneficial uses of the State's waters.

Rule Text Edit: No

Comment L14-2: David A. Bischel, President, California Forestry Association (Calforests).

"New rules pertaining to hydrologic disconnection may result in agency misinterpretation of these rules.

There are now several new proposals for hydrologic disconnection of roads and landings throughout the current rule plead. Calforests fully supports the Board's goal of disconnecting roads—and potential erosion sources—from adjacent watercourses. We believe that the term "...to the extent feasible..." that is now part of the proposed rule text will help reduce the potential for inappropriate application of these disconnection standards in the field. We also acknowledge that the new Technical Rule Addendum #5 (TRA #5) may assist those who may be unfamiliar with the concept of hydrologic disconnection, and may aid in the development of standard and site-specific measures for accomplishing this disconnection. However, the entire concept of hydrologic disconnection will be new to many landowners, registered professional foresters (RPF), review team representatives and other agency staff associated with on-the-ground Timber Harvesting Plan (THP) enforcement. Our concern is that unless there is an established level of either

DRAFT "ROAD RULES" FSOR

performance or risk associated with hydrologic disconnection, then there will be a risk to landowners and RPFs that unreasonable standards for hydrologic disconnection will be expected. To some degree, total hydrologic disconnection at all times on any given road is virtually impossible. During the most intense weather events, no road system will be totally disconnected. We have seen examples of this during the major flood events of February 1986 and January 1997, and more commonly—but to a lesser degree—during many other sizeable weather events that occur in California on a recurring basis. In the event that the Board eventually adopts these road rules, Calforests hopes that all agency staff associated with THP review and implementation will exhibit a level of reasonableness in the application of all new hydrologic disconnection rules, and that the Board's intent of a "feasible" application of this rule is indeed applied in practice."

Board Response

The Board acknowledges Calforest's concern regarding implementation of the rule requirements related to hydrologic disconnection. The Board and Department staff produced Technical Rule Addendum No. 5 to address this concern and provide guidance on when and where hydrologic disconnection is appropriate on logging roads. The Board expects that its use will provide reasonable standards for the reviewing agencies. Additionally, the Department will conduct training workshops to further explain where hydrologic disconnection is necessary and appropriate. Therefore, the Board does not find this to be a significant issue for the regulated public.

Rule Text Edit: No

Comment L14-3: David A. Bischel, President, California Forestry Association (Calforests).

"TRA #5 incorrectly correlates "hydrologic connection" with "significant sediment discharge." TRA #5 states that "for all existing road segments where hydrologic connection may be present, 14 CCR 923.1 (e) requires that an evaluation be conducted to identify which segments need to be disconnected and how the disconnection will occur." This is not correct. The actual draft language in 923.1 (e) actually states that "...the RPF or supervised designee shall: 1) evaluate and document the potential of the road or landing to impact sensitive conditions and 2) (i) locate and map significant existing and potential erosion sites, and 3) (ii) specify and schedule feasible treatments to mitigate significant adverse impacts from the road or landing." In essence, TRA #5 is making an assumption that every road segment that is hydrologically connected is either a "significant existing and potential erosion site," or that this connection will result in a "significant adverse impact." This incorrect and far-reaching correlation between hydrological connection and significant adverse impacts will undoubtedly result in many road segments with little or no impacts to nearby watercourses receiving an unnecessary level of scrutiny. This, in turn, may lead to expensive and unnecessary measures to disconnect these road segments when there may be no real benefit to do so. The appropriate sections of TRA #5 need to be re-written to avoid this correlation between hydrologic connection and significant impacts."

Board Response

The Board finds that the language included in Technical Rule Addendum No. 5 is appropriate and changes are not required, since it is necessary for the RPF to determine which logging road segments need to be hydrologically disconnected to address significant existing or potential erosion sites associated with logging roads in the logging area. Additionally, the Board finds that Technical Rule Addendum No. 5 does not make the assumption that every road segment that is hydrologically connected is either a significant existing or potential erosion site, or that this connection will result in a

DRAFT "ROAD RULES" FSOR

significant adverse impact. Technical Rule Addendum No. 5 was specifically developed to provide guidance to the regulated public and the reviewing agencies regarding which road segments require treatments to produce hydrologic disconnection and the document includes lists of factors, verbiage, and diagrams that indicate where work is appropriate.

Rule Text Edit: No

Comment L14-4: David A. Bischel, President, California Forestry Association (Calforests).

"Proposed requirements to locate and map "significant existing and potential erosion sites" may result in unnecessary field review and evaluations.

The draft rule plead contains new proposed requirements to locate and map significant erosion sites under § 923.1 [943.1, 963.1] (e) and in 1034 (x). These requirements may evolve into a process that is overly complicated or which may have only marginal benefits. The term "significant existing and potential erosion site" is a new term, and although it would be defined in § 895.1, Calforests fears that there is a possibility for misinterpretation of this definition and related rule. For example, it could be argued that almost any erosion site could be "significant," or that any site has a "potential" to produce erosion. Any misinterpretation of these definitions from what the Board had originally intended could result in unnecessary field-assessment efforts, unnecessary THP write-ups, and even more significantly, requirements to perform work on the road system above and beyond the standard of what should be reasonably expected."

Board Response

The Board finds that this concern identified by Calforests will be addressed by training programs for the Road Rules, 2013 to be developed and conducted by the Department of Forestry and Fire Protection. Should significant problems be identified by the regulated public after several months of rule regulation implementation, members of the public may inform the Board's Forest Practice Committee members. California Forest Practice Act Section 4553 specifies that the rules and regulations adopted by the Board are to be continuously reviewed and revised, allowing the regulated public the opportunity to suggest needed improvements in the future.

Rule Text Edit: No

Comment L14-5: David A. Bischel, President, California Forestry Association (Calforests).

"The new term "significant sediment discharge" has a similar potential for misinterpretation. Although this new term is defined in § 895.1, the definition may result in a new standard in the application of many other road rules than what was intended by the Board. For example, § 923.6 (b) requires that "Logging roads and landings shall not be used at any time of the year when operations may result in significant sediment discharge." Also, § 923.5 (1) requires that "...bare soil on logging road or landing cuts or fills exposed by timber operations shall be stabilized to the extent necessary to minimize soil erosion and....prevent significant sediment discharge." The term "significant sediment discharge" is used 41 times in the proposed rule package, and can be found in virtually every section of the proposed rules. Any minor misinterpretation of this term can have major effects on timber operations. As an example, areas burned by a catastrophic wildfire may have an unreasonable standard applied to roads and landings, although no additional "significant sediment discharge" will actually occur from salvage operations. Emergency operations pursuant to § 1052 "Emergency Notice" require that "timber operations ...shall comply with

DRAFT "ROAD RULES" FSOR

the rules and regulations of the Board" and "...timber operations under an Emergency Notice shall comply with all operational provisions of the Forest Practice Act applicable to 'Timber Harvest Plan', 'THP', and 'plan'..." Any misinterpretation of any rule relating to "significant sediment discharge" could spell disaster for timberland owners who plan to conduct emergency operations in areas impacted by severe wildfires."

Board Response

Refer to response to Comment L14-4.

The Board acknowledges that the definition of significant sediment discharge is a rigorous ("high bar") standard that was developed following considerable discussion from the regulated public and the reviewing agencies in Forest Practice Committee meetings. The Board recognizes that Water Board policies specify that there are allowable zones for dilution within which higher percentages than 20% above naturally occurring background levels can be tolerated in many situations, making the definition of significant sediment source workable in field situations. The Board finds that holding training workshops for LTOs, RPFs, and the regulated public is critical to ensure successful implementation of the rule package, particularly related to the definition of significant sediment discharge, and it will work with the Department to ensure that they occur in the first part of 2014.

Rule Text Edit: No

Comment L14-6: David A. Bischel, President, California Forestry Association (Calforests).

"The rule plead proposes additional restrictions on road construction in proximity to watercourses. Specific exceptions to this requirement should be provided for in the appropriate rule section.

There are new proposed provisions affecting roads next to watercourses. Proposed rule section 923.4 [943.4, 963.4] (b) generally prohibits road construction within 150 feet of Class I watercourses, regardless of the actual Watercourse and Lake Protection Zone (WLPZ) width. On the surface, this proposal to limit road construction and use in and around watercourses appears to have definite merit. However, there are instances where the location of a road outside the WLPZ, yet within 150 feet of a watercourse may have both operational and environmental benefits. Although there is a general exception for all road rules in § 923 [943,963] that allows for the RPF to propose alternative practices, Calforests believes that there should be a specific "explain and justify" provision in § 923.4 [943.4, 963.4] (b) to reaffirm that exceptions to these new road-construction provisions are possible."

Board Response

The Board did not adopt this comment recommendation. The Board finds that the adopted rule requirements included as part of the Road Rules, 2013 rule package are sufficient to address this suggested rule insertion, and that adding a specific "explain and justify" provision for 14 CCR Section 923.4 [943.4, 963.4] (b) is unnecessary and redundant. The general requirement to have road construction occur greater than 150 feet away from the watercourse transition line of a Class I watercourse, regardless of the WLPZ width, is supported by the literature review conducted by the Department of Forestry and Fire Protection during the development of the Road Rules, 2013 rule package.

Rule Text Edit: No

Comment L14-7: David A. Bischel, President, California Forestry Association (Calforests).

"Additional restrictions on road reconstruction within the WLPZ should have similar "explain and justify" exceptions.

Additional road-reconstruction restrictions in WLPZs can be found in proposed rule section 923.4 [943.4, 963.4] (c) that generally prohibits road reconstruction within WLPZs. The reconstruction of a road generally improves the long-term functioning of that road. There shouldn't be a general restriction on the reconstruction of roads anywhere, especially within a WLPZ where proper road function is of critical importance. Calforests believes there should be an "explain and justify" exception to this reconstruction restriction to allow for site-specific reconstruction within a WLPZ when the proposed reconstruction will provide positive environmental results."

Board Response

Refer to response to Comment L14-6.

Rule Text Edit: No

Comment L14-8: David A. Bischel, President, California Forestry Association (Calforests).

"Deletion of the term "Public Road" from 14 CCR 895.1

Calforests has concerns with the deletion of the term "Public Road" from 14 CCR 895.1 (see lines 15-16 on page 6 of the rule package) since the term is used multiple times throughout the Forest Practice Rules. If there is no definition for this term, substantial confusion will occur on the part of landowners. Deletion of the term also undermines the proposed rule package since the major area of applicability for the package is to logging roads which by definition are roads other than public roads."

Board Response

Refer to response to Comments L9-1 and L12-2.

The Board adopted the suggested change to ensure clarity and enforceability of the regulations, as well as for consistency with other sections of existing California Forest Practice Rules.

Rule Text Edit: Yes

Comment L14-9: David A. Bischel, President, California Forestry Association (Calforests).

"Calforests has additional concerns with various other elements of this rule package. This enormous rule package contains many new specific rules, additional road-related definitions, terms and additional road-mapping requirements. In addition, TRA #5 is a lengthy document that also provides a significant amount of new information. Given the sheer size of this rule package, we have serious concerns with possible misinterpretation of rules during the THP review and approval process, then subsequently during THP implementation and enforcement. Even seasoned foresters associated with THP preparation and submission will need to relearn many new road-related rules and concepts. The same can be said for agency review team members and agency staff charged with on-the-ground enforcement of THPs. Everyone associated with

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THPs will have a flurry of new rules, terms, definitions, justifications and mapping requirements to learn. We anticipate this will result in disagreements amongst RPFs and state agencies in the implementation of these rules. Calforests urges CAL FIRE, as the lead agency, to bring some of these recurring or significant disagreements to the Board's attention, at which time the Board can advise CAL FIRE on the Board's intent with regards to these various rule sections in question."

Board Response:

Refer to responses to Comments L3-3, L7-1, L7-2, and L14-4.

Rule Text Edit: No

Comment L14-10: David A. Bischel, President, California Forestry Association (Calforests).

"Finally, Calforests needs to review a detailed economic analysis of this rule package before we make additional comments. The noticed rule package that was released on August 23, 2013 has a brief narrative of the perceived economic impacts of this rule package. Calforests believes that with this massive and significant rule package, there needs to be a detailed economic analysis of the probable effects of the most important portions of this rule package. Board staff has outlined a scenario whereby this detailed economic analysis will be drafted in the near future, and that only after the release of this analysis will the Board vote on the final adoption of this rule package. Calforests fully endorses this proposal, and we look forward to the release of this detailed economic analysis so we can make additional informed comments on this rule package."

Board Response:

Refer to response to Comment L11-6.

Rule Text Edit: No