

Eric,

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)). Dave Fowler will submit more detailed comments for the official record on Monday, but I just wanted to get this to you now.

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.

Please feel free to contact me if you have any questions,

Thank You

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October 4, 2013

Dr. Keith Gilles, Chairman  
California Board of Forestry and Fire Protection  
P.O. Box 94426  
Sacramento, CA 94244-2460

Re: Road Rules, 2013 rule package; public hearing 10/9/13

Dear Chairman Gilles and Board Members,

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. 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.

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. 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.

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.

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.

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.

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).

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). 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.

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 (1-43), (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...".

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.

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 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 dissipaters, road surface outsloping, 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 “~~VIV. 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 ~~6~~”; modify the title of Figure 7 on page 19 as “Figure ~~7~~”. 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.

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.

Thank you for the opportunity to comment on the Road Rules, 2013 rule package including Technical Rule Addendum No. 5. We also thank the FPC for diligently reviewing and revising the road rule package over many meetings during the last two years.

Sincerely



Peter F. Ribar  
Resource Manager



May 18, 2012

Board of Forestry and Fire Protection  
Attn: Eric Huff  
Regulations Coordinator  
P.O. Box 944246  
Sacramento, CA 94244-2460

Re: Board of Forestry Staff Questions Regarding Rulemaking Actions Required for Road Rules, 2012

Dear Mr. Huff,

The following comments are submitted on behalf of Hawthorne Timber Company. I personally participated on the Road Rules Task Force or Technical Working Group for almost three years and have been an active participant at Forest Practice Committee (FPC) meetings discussing this topic. I have provided some background information for context before commenting specifically on Staff's questions.

#### Background

- The Interagency Road Rules Task Force worked for almost three years reorganizing all road-related requirements into one Article within the FPRs (2005-2007) with modifications where warranted (see attached summary of this effort). The Road Rule package was then put on hold as the BOF addressed Coho Salmon Incidental Take Rules and then ASP Rules. In November 2009 the Road Rule Task Force was reformed with the goals to have a new Task Force plead reflect ASP relevant road related ASP requirements. In December 2009, the BOF also requested agencies to submit to the BOF initial input regarding roads, landings and watercourse crossings. A revised Task Force plead dated 03-02-10 became the base document for discussion. FPC staff compiled a list outstanding agency comments and issues related to roads, landing and watercourse crossings to be discussed during review of the road rule package.

#### What is the problem we are trying to address with the "Road Rules?"

- Current road related FPRs are not well organized?

Not all logging road, landing and logging road watercourse rule requirements are located in one Article within the FPRs. Regardless of this, over the years, all parties (agencies, RPFs, LTOs, etc.) have become familiar with road rule content and where such requirements reside within the FPRs. Whether the existing rules are well organized or could be improved upon is somewhat of a "comfort-level" question. Road rules need to continue to distinguish between specific requirements for ASP watersheds and overall statewide requirements. I believe there is value in having a set of rules that is more clearly separated into a greater range of functional activity categories. Currently some existing road requirements (e.g. use and erosion

control) are located under the road construction subsection. Because erosion and sediment transport/delivery has been linked to adverse impacts on fisheries and other beneficial uses there is need for a separate erosion control subsection. In addition, having a separate set of requirements for logging road watercourse crossing requirements is an attempt to elevate the importance of practices in and adjacent to these features and is supported by the finding of past monitoring efforts.

- Existing road related FPRs are difficult to implement or enforce?

The FPC has recently been presented a summary of various agency monitoring programs related to roads, landings and watercourse crossing implementation and initial effectiveness. Several studies have shown that the FPRs are highly effective in preventing sediment delivery when properly implemented. Most problematic departures are related to road approaches and watercourse crossings. In many cases it is not possible to eliminate 100% of sediment discharge, particularly at watercourse crossings. The outcome of this past monitoring work has been additional training workshops to provide practitioners updated information on identification, assessment, and treatment prescriptions to improve performance (e.g. focus on installation of functional cut-off drainage structures or facilities on road approaches to watercourse crossing; need to address diversion potential). The use of consistent terminology and language in the rules facilitate implementation and enforceability and should be a major emphasis in the rule package (e.g. significant sediment discharge). However, due the wide variety of site-specific conditions found through-out the state it is also appropriate to rely on RPF expertise and judgment in prescribing appropriate and effective treatments. Recent annual CAL FIRE reports to the BOF on implementation of new or existing rules have not indicated widespread road rule issues of concern. The proposed adoption of a new rule package has once again focused attention on the need and/or opportunity to develop non-regulatory guidance documents or training opportunities to improve implementation of key rule provisions. However the value of training documents/opportunities is highly dependent on widespread outreach and dissemination to RPFs, LTOs, agencies and other interested parties along with the incorporation of a field-based module.

- Existing road related FPRs are not protective enough of natural resources?

Agency concerns over listed anadromous salmonids and other beneficial uses of water have been a significant driver of regulatory changes in the last decade. The T or I rules and existing ASP rules were/are a response to these concerns by increasing the level of protective requirements. It is appropriate that the rules clearly delineate requirements for watersheds with listed anadromous salmonids and those for general statewide application (e.g. with fewer listed fish species or areas of 303(d) listed impaired waterbodies). For example, the existing ASP rules (and the previous T or I rules) require identification and remediation of sites where erosion and sediment production are ongoing (active erosion sites). RPFs conduct road assessments and develop treatment prescriptions that are included in the plan and subsequently implemented by LTOs. Under existing ASP rules this is a time consuming task to develop let alone the cost of the treatment prescriptions

themselves. The specific ASP rules are in addition to the existing standard statewide roads and landing rules. Similarly, Regional Water Quality Control Board adopted waivers of waste discharge or general waste discharge requirements (GWDRs) with required erosion controls plans, rely on the THP to aid in facilitation of conformance with these requirements. Past monitoring efforts generally indicate that the rules are highly effective (i.e. preventing erosion, sedimentation and sediment transport to channels) when properly implemented. The most effective approach at minimizing adverse water quality impacts continues to be the proper application of rules (i.e. best management practices) in conjunction with site-specific measures or mitigation. Monitoring effectiveness by measuring water column metrics and associating results with biologic response (e.g. fish production/health) is complex and costly to implement and analyze. In the last decade millions of dollars have been spent on erosion control treatments to address potential impacts of sediment delivery on listed anadromous salmonids. Changes in habitat metrics can be measured but are often affected by temporal variations due to changes in winter flows. The biologic response of such efforts to date has been difficult to measure. More robust and complex habitat monitoring procedures while potentially yielding more repeatable and discriminating results of long term trends are also much more expensive to implement.

- Existing road related FPRs do not achieve “state-of-the-art” or contemporary road standards?

It is partially true that some proposed rule concepts are not directly incorporated in the current rules either for ASP watersheds or statewide. However, the rules generally cannot be isolated from the THP review and approval process that incorporates their use. Both existing and proposed rules utilize a mixture of performance based and prescriptive rules. The THP process also facilitates the incorporation of additional site-specific measures or mitigation. Use of licensed professionals in the THP process also provides additional levels of professional expertise. Over time, additional terms/issues (e.g. critical dips, connected headwall swales, public safety concerns) and practices (e.g. hydrologic disconnection) have been considered and addressed as part of the THP review and approval process or other mechanisms (e.g. waivers, GWDRs). Existing rule requirements focus on avoiding or substantially lessening significant adverse impacts. Increased attention to potential road impacts natural resources by all parties over the last ten years has resulted in a redoubling of efforts to identify problem erosion sites and the prescription of site-specific effective treatments.

- Existing road related FPRs are not in harmony with other existing regulatory expectations or standards?

The FPRs have been modified over the years and recognize other state and federal requirements (e.g. water quality control plans/requirements, watersheds with listed anadromous salmonids). While complete harmonization may not be possible between the FPRs and other agency processes given differing jurisdictional mandates they are at a minimum complementary and approved THPs are often used to facilitate conformance with these other jurisdictional mandates. The BOF FPRs

and the THP process are also designed to comply with the Forest Practice Act and CEQA. Other agency requirements are similarly guided by their enabling statutes. So while complete harmony of differing statutory and regulatory standards is a laudable goal more achievable objectives are consistency, recognition and accommodation.

What are the anticipated benefits of the current “Road Rules” proposal?

- Easier implementation and enforcement of road-related FPRs?

The proposed rule package has the potential for improved clarity and efficiency (but only after a period of training and use). Hopefully, adopted language will improve clarity and avoid unintended consequences. Due to the comprehensive nature of the proposed rule package ease of use will not an expected benefit.

- Verifiable reduction of road-related impacts upon natural resources?

Past monitoring has shown that rule implementation was generally high for roads (90%+), impacts (sediment delivery) were most often associated with improperly implemented rules (departures). Watercourse crossings had lower implementation rates (80%+) and more major rule departures. Other monitoring efforts have also shown that rules and rule implementation for watercourse crossings and associated road approaches have been problematic. Therefore, rules or training approaches or guidance documents should focus on these areas. The CAL FIRE monitoring programs will have to be significantly modified to accommodate new rule requirements in order to maintain unbiased and consistent evaluations of implementation and effectiveness. While such monitoring is time consuming and expensive, it does provide all parties some quantitative feedback on overall effectiveness.

- Road-related FPRs will be consistent with “state-of-the-art” or contemporary road standards?

Past monitoring results have generally shown that implementation problems rather than rule requirements themselves are more often associated with sediment delivery impacts. Problem identification is also a key factor in prescribing effective erosion control treatments. Therefore, additional training programs/documents are warranted and needed to improve performance for key areas of concern.

- Regulatory agencies will share same regulatory standards and expectations for roads? Reduction of Regulatory overlap?

As mentioned above under “Problem to be addressed”, while this is a laudable goal, there are significant limitations to what can be achieved given different mandates and statutes. One common thread of agreement is avoid creating new problems and if problems currently exist work to address them in an effective manner.

## What is the economic impact of proposal?

In order to adequately evaluate potential cost impacts of new rules it is desirable to develop an acceptable methodology. The following suggestions are an initial attempt to describe the potential steps or elements needed to inform a viable process:

1. Establish baseline rule requirements (FPRs currently applicable)
  - For ASP watersheds, baseline includes: all statewide and ASP FPRs in existing Article 12 logging Roads and Landings (e.g. 14 CCR 923-923.9, 4 CCR 916.9 (j), (k), (l), (n), (o), (p) (r) plus prohibition of timber operations in Core Zones and Inner Zones depending on presence of flood prone area or CMZ)
  - For Non-ASP watersheds or Statewide application baseline include: all applicable FPRs in existing Article 12 (e.g. 14 CCR 923-923.8, referenced requirements from 14 CCR 914.6 and 914.7)
2. List new or significantly modified rule requirements that have potential cost impacts in either ASP or Statewide application. Also need to clarify the types of cost impacts. Most will be related to additional manpower and/or equipment to needed to implement. However, new rule requirements may also effectively limit the work period for timber operations; so this must be considered as well.
3. Determine cost estimates by three possible alternative approaches for both ASP watersheds and for general statewide implementation:
  - For each activity or rule requirement establish costs by rankings of high, average and low to yield a range of potential costs by activity-rule requirement (e.g. \$XXXX – based on estimated time (personnel and/or equipment) and materials, to install a hydrologic disconnection ditch relief culvert or rolling dip, \$XXXX to rock approaches to a watercourse crossing that are not effectively hydrologically disconnected based on range of road lengths/widths and rocking depths)
  - AND/OR cost by THP size by small (e.g. 40 acres), medium >40 ac. but <200 ac., large 200ac - 1000 ac, very large >1000 ac.) based on representative sub-sample of actual THPs
  - OR by surrogate list of hypothetical but informed assumptions for each THP size category (e.g. small THP - 1 day RPF road assessment, rock approaches to 1 crossing, install two rolling dips for disconnection etc. for each THP size category, etc.).

Depending on which approach is utilized above, some additional assumptions will need to be specified in order to provide a range of possible costs from low, average and high, including but not limited to:

- Specify road widths (e.g. 12 feet for small THPs/NTMPS, 14 feet for medium THPs, 16 feet for large-very large THPs)
- Specify range of road approach rocking lengths per crossing that cannot be hydrologically disconnected (e.g. 100 feet, 150 feet and 200 lineal feet per crossing)

- Specify the depth of rock to be applied
  - Specify range of rock procurement costs (e.g. on-site pit-run, on-property privately crushed, commercially purchased materials)
  - Specify equipment and/or personnel hours to conduct specific activities
  - Specify average move-in/transportation costs for equipment and personnel
  - Some additional overhead costs should be included to account for supervision
4. Roll-up costs by region (e.g. CAL FIRE THP database could be used to establish 10 year average number of THPs submitted annually by category; however Forest District lines and ASP boundaries don't coincide). Costs per THP could be multiplied to achieve ASP and Statewide annual cost estimates.

Once a revised plead is developed or during the next 45-Day notice we plan to provide a cost impact analysis for the Hawthorne property utilizing one or more of the approaches outlined above.

### Alternatives

The range of alternatives to consider could include:

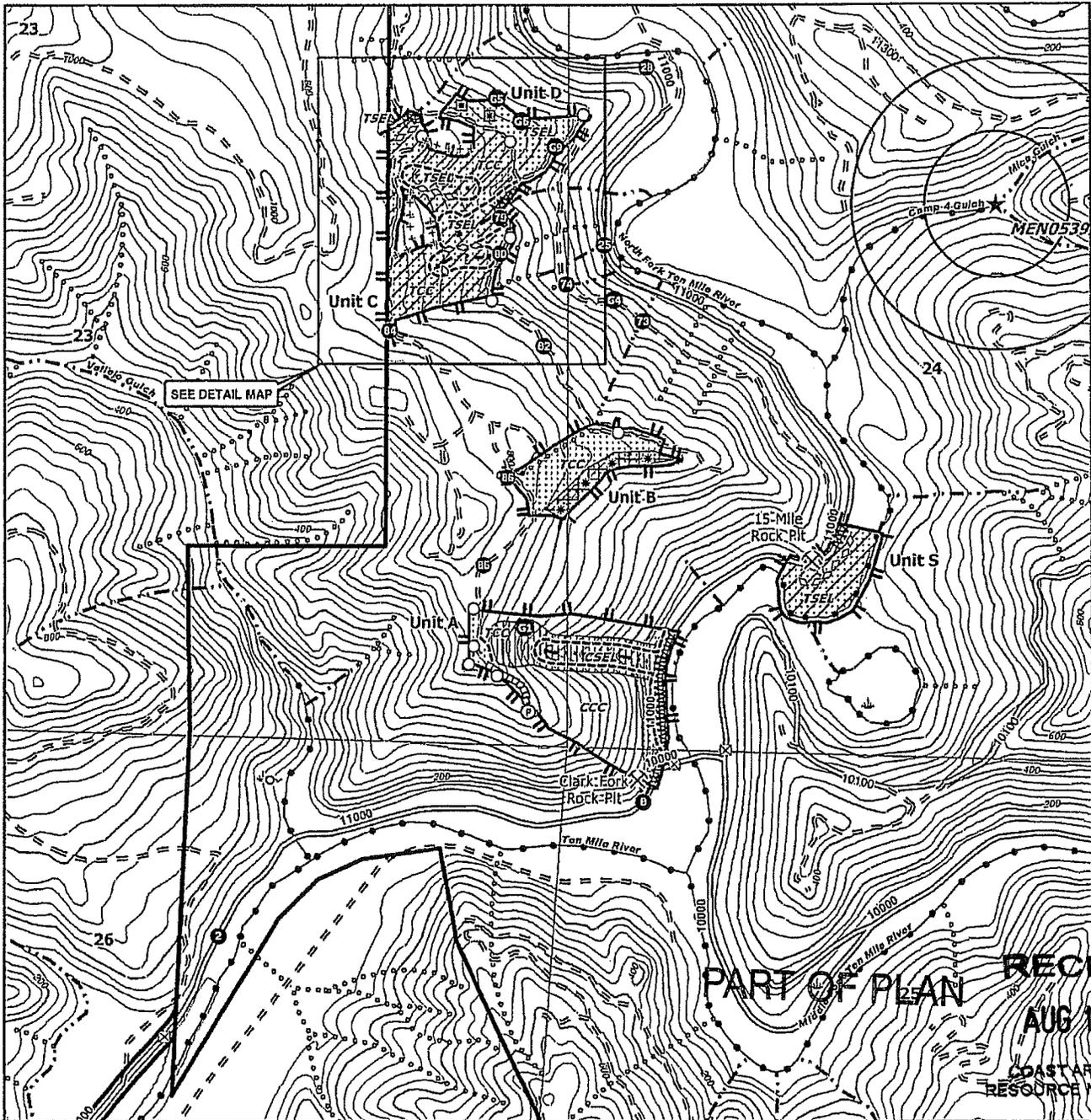
1. No rule changes – status quo (no action)
2. No rule changes but develop non-regulatory white papers and/or training programs focusing on specific key issues (e.g. hydrologic disconnection, field assessment, watercourse crossing approaches etc.) to aid in implementation of desired outcomes
3. Rule changes limited to XXX
4. Rule changes limited to XXX with white papers/training programs
5. Rule changes limited to XXX including a new regulatory technical rule addendum(s)
6. Comprehensive rule package with white papers/training programs
7. Comprehensive rule package including a new regulatory technical rule addendum(s)

Thank you for the opportunity to comment on possible rulemaking actions required for Road Rules, 2012.

Sincerely,



Peter F. Ribar  
Resource Manager  
Campbell Timberland Management



Master Legend (Not all symbols may be on every map)

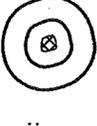
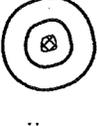
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**Operators Map 4**  
**THP# 1-09-072 MEN**  
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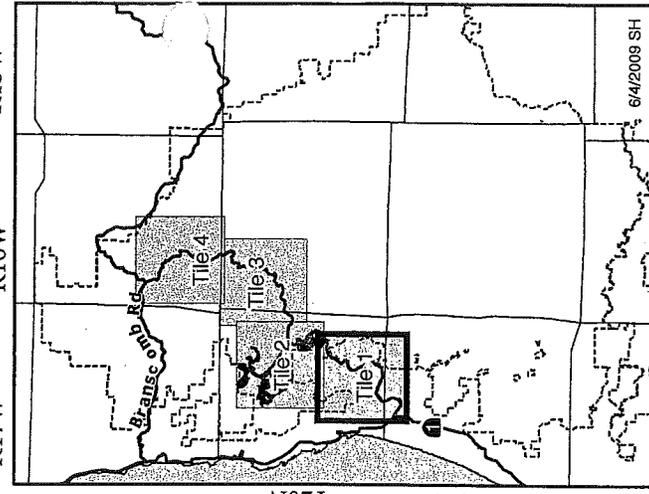
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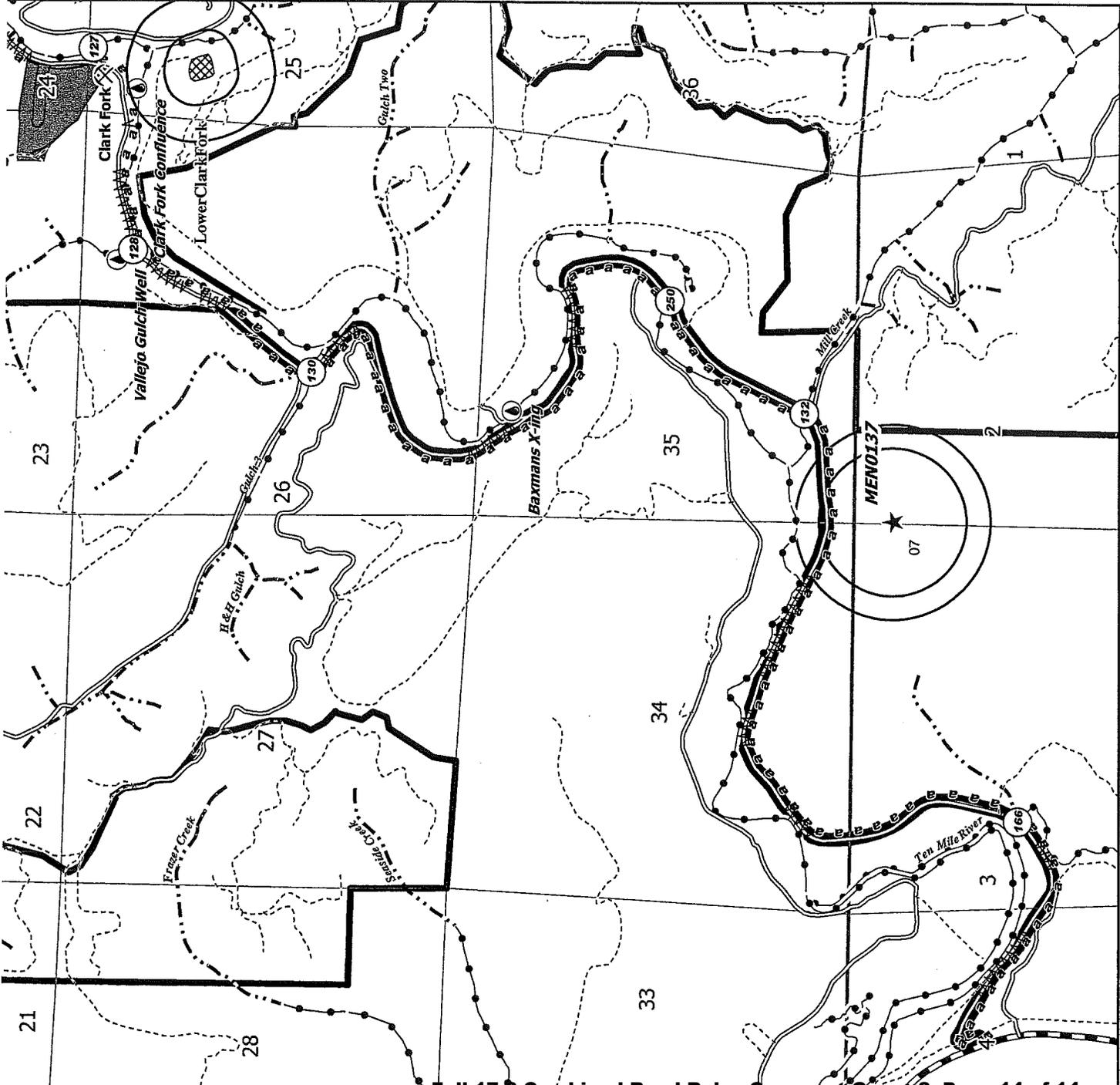
1:12,000 1" = 1,000'

<ul style="list-style-type: none"> <li>● Map Point</li> <li>⊠ Gate</li> <li>⊗ Rock Pit</li> <li>○ Existing Landing</li> <li>⊙ Proposed Landing</li> <li>⊕ Temporary Crossing</li> <li>○ Spring</li> <li>⚡ Wet Area</li> <li>* Side slopes &gt; 65%</li> <li>⊠ Side Slope &gt; 60% &amp; &lt; 65%</li> <li>⊠ Longline Area</li> </ul>	<ul style="list-style-type: none"> <li>⊙ NSO Activity Center with buffers of: 500' &amp; 1000'</li> <li>+++ Appurtenant Tractor Roads</li> <li>//// Tractor Assist</li> <li>◇◇◇◇ Tractor road in WLPZ</li> <li>MMMMMM Roads in WLPZ</li> <li>==== Existing Seasonal Road</li> <li>===== Existing Permanent Road</li> <li>⊠ Proposed Seasonal Road over 200' and &gt; 15% grade</li> <li>--- Silviculture/ Yarding/ Unit Break (roads or watercourses may also denote breaks)</li> </ul>	<ul style="list-style-type: none"> <li>— Property Boundary</li> <li>   THP Boundary</li> <li>⋯ Class III Watercourse</li> <li>- · - · Class II Watercourse</li> <li>— Class I Watercourse</li> </ul>	<p>Map 1 THP Overview</p> <p>Map 2</p> <p>Map 3</p> <p>Map 4</p> <p>Geologic Special Treatment Zone</p> <p>CCC=Cable Clearcut        TCC= Tractor Clearcut        CSEL=Cable Selection        TSEL=Tractor Selection        CGSL= Cable Group Selection</p> <p>0/13/2009 ZMJ</p>
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 NSO Activity Center  
 Existing Rock Pits  
 Water Drafting Sites  
 Class I Watercourse Crossings  
 Class I Watercourse  
 Class II Watercourse  
 Appurtenant Road  
 Appurtenant Road in WLPZ  
 Existing Permanent Paved Road  
 Existing Permanent Road  
 Existing Seasonal Road  
 Proposed Seasonal Road  
 HTC Ownership  
 THP Area  
 NSO Buffers:  
1,000 ft & 1/4 mi  
 MAMU Habitat  
with Buffers:  
330 ft & 825 ft  
 RF 1:24,000  
0 500 1,000 2,000 Feet  


**Title Reference**  
 R17W R16W R15W  
 T21N T20N T19N  
  
 6/4/2008 SH



**Title 1 Valjejo THP Appurtenant Roads Map**



Keeping Northwest California wild since 1977

*Sent via e-mail to: [board.public.comment@fire.ca.gov](mailto:board.public.comment@fire.ca.gov)*

October 7<sup>th</sup>, 2013

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**Re: EPIC Comments regarding 45-day notice of rulemaking “Road Rules” 2013**

Dear Mr. Huff and Board Members:

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.

**Summary**

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.

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,

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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.

### **Purpose and need for the “Road Rules”**

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.

### **Merits of the 45-day-Noticed Rulemaking Proposal**

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.

## **Deficiencies of 45-day-Noticed Rulemaking Proposal**

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 duplicitious 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.

## **Conclusion**

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.

We appreciate the opportunity to engage with the Board on these topics, and are committed to continued engagement with the Board on these and other issues.

Sincerely,

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*Attachments*

Attachment A: EPIC literary review: Hydrologic Disconnection.

## Attachment "A"

### 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 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 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

Bracken, L.J. and Croke, J., "The concept of hydrological connectivity and its contribution to understanding runoff-dominated geomorphic systems", *Hydrological Processes*, 21, 1749-1763 (2007).

Cafferata, P. and Brandow, C., "Point Source White Paper Draft Language", dated 9/08/2010, downloaded from <ftp://frap.cdf.ca.gov/pub/incoming/IMMP/Technical%20Rule%20Addendum%20No.%205%20%28draft%29%20materials/>

Coe, D. and Cafferata, P., "State Board of Forestry and Fire Protection – Forest Practice Committee Science Review for Road Rules Discussion" dated May 4, 2010, downloaded from <ftp://frap.cdf.ca.gov/pub/incoming/IMMP/Technical%20Rule%20Addendum%20No.%205%20%28draft%29%20materials/>

Coe, D., "Sediment Production and Delivery from Forest Roads in the Sierra Nevada, California", MSc Thesis, Department of Forest, Rangeland, and Watershed Stewardship, Colorado State University, 2006.

Croke, J, Mockler, S., Fogarty, P., and Takken, I, "Sediment concentration changes in runoff pathways from a forest road network and the resultant spatial pattern of catchment connectivity", *Geomorphology*, 68, 257-268 (2005).

Croke, J.C. and Hairsine, P.B. "Sediment delivery in managed forests: a review", *Environmental Reviews*, 14, 59 - 87 (2006).

Fu, B, Newham, L.T.H., and Ramos-Scharron, C.E., "A review of surface erosion and sediment delivery models for unsealed roads", *Environmental Modeling and Software*, 25, 1-14 (2010).

Furniss, M.J., Flanagan, S.A., and McFadin, B., "Hydrologically-Connected Roads: An Indicator of the Influence of Roads in Chronic Sedimentation, Surface Water Hydrology, and Exposure to Toxic Chemicals", *Stream Notes*, USDA Forest Service Stream Systems Technology Center, July 2000.

Jones, J.A., Swanson, F.J., Wemple, B.C. and Synder, K.U., Effects of Roads on Hydrology, Geomorphology, and Disturbance Patches in Stream Networks, *Conservation Biology*, 14, 76-85 (2000).

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).*