INITIAL STATEMENT OF REASONS

ROAD RULES

[July 17, 2002]

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

Amend:

§ 895.1	Definitions
§§ 914.2 [934.2, 954.2]	Tractor Operations
§§ 914.6 [934.6, 954.6]	Waterbreaks
§§ 914.7 [934.7, 954.7]	Timber Operations, Winter Period
§§ 914.8 [934.8, 954.8]	Tractor Road Watercourse Crossing
§§ 916.7 [936.7, 956.7]	Reduction in Soil Loss
§§ 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
§§ 923.5, [943.5, 963.5]	Landing Construction
§§ 923.8 [943.8, 963.8]	Planned Abandonment of Roads, Watercourse Crossings, and Landings
§ 1050	Erosion Control Maintenance

Adopt Permanently:

§§ 916.14 [936.14, 956.14]	Effectiveness and Implementation Monitoring

14 CCR § 895.1 Definitions

PUBLIC PROBLEM, ADMINISTRATIVE REQUIREMENT, OR OTHER CONDITION OR CIRCUMSTANCE THE REGULATION IS INTENDED TO ADDRESS

The California Forest Practice Rules commonly utilize technical terms in the regulation text that are generally recognized by federal and state agencies, as well as the forest products industry representatives. However, the Forest Practice Rules under section 895.1 (Definitions) do not include a comprehensive listing of applicable definitions for these terms. Of the five (5) definitions proposed for addition or as amendments to the Forest Practice Rules, three (3) are not currently listed in the Forest Practice Rules, although the terms are proposed for use in the regulation changes presented in this rulemaking package. Of the definitions proposed to be changed, the definition of "unstable soil conditions" doesn't adequately define the term. The current definition for this term does not address some important factors related to the protection of the state's waters. These factors include increases in turbidity in Class III and Class IV watercourses and impacts to watershed resources from the use of heavy equipment for site preparation. The revised language also includes clear provisions that the applicable water quality requirements cannot be violated.
The definitions proposed for adoption are intended to ensure that the public, as well as the reviewing agencies, understand the terms that are utilized in the proposed changes

to the regulations, and also those that are currently used in the Rules. This will also keep the Rules clear.

SPECIFIC PURPOSE OF THE REGULATION

The proposed additions and changes to the definitions are intended to ensure that the affected public, as well as the reviewing agencies understand the technical terms that are utilized in the proposed changes to the regulations and those that are currently included in the Forest Practice Rules. This is additionally intended to allow for brevity in the rule language and subsequently to increase the clarity of proposed and existing regulations.

The addition of the definitions of the terms, "channel zone", “inner gorge", and “convergent slopes” is intended to provide common, enforceable definitions of terms being utilized in the proposed rule changes.

The possible amendment of the definition of the term "Saturated Soil Conditions" to “Unstable Operating Conditions” with added qualifications is intended to correct problems in the existing definition in the following ways:

1) It expands protection to currently unprotected Class III and IV waters.
2) It prohibits turbidity increase that would violate applicable water quality standards.
3) It extends application to mechanical site preparation.
4) It reduces unnecessarily duplicative language.
5) It adds excessive rutting by yarding or site preparation equipment as evidence of saturated soil conditions.

The addition of the definition of the term "stable operating surface" is intended to provide a common, enforceable definition of a term which is being utilized in the proposed rule changes.

The addition of the definition of the term "watersheds with threatened or impaired values" is intended to provide a common, enforceable definition of a term which is being utilized in the proposed rule changes. This new definition is intended to give special recognition to those watersheds where populations of anadromous salmonids that are listed as threatened, endangered, or candidate under the State or Federal ESAs are currently supported or could feasibly be restored. This is intended to clearly identify those watersheds where more stringent forest practices are required.

NECESSITY

The proposed additions and changes to the definitions are necessary because the current and proposed Forest Practice Rules include technical terms in other subchapters without an adequate description of the term. Definitions of the five (5) technical terms included under 14 CCR 895.1 are necessary to ensure that all affected persons can readily access the meaning of the terms when necessary to understand and enforce the regulations.

The addition of the definitions of the terms "channel zone", and "inner gorge" is necessary because these terms are utilized in the proposed changes to the regulations, but the existing regulations fail to provide a common, enforceable definition of the terms that are being utilized.

The possible amendment of the definition of the term "unstable operating conditions" is necessary to correct problems in the existing definition. The amended definition is necessary to:

a) Expand protection to currently unprotected Class III and IV waters. Any turbidity in Class III waters will, by definition, enter Class I or II waters. Increased turbidity in Class IV water may impair its intended beneficial use and/or the lifetime of the facilities that convey, store, or utilize the water.
b) Prohibit a turbidity increase that would violate applicable water quality standards. Some water quality standards prohibit turbidity increases that are too small to be visible, and where receiving water is already highly turbid, large increases may not be visible.
c) Extend the application of the Rules to mechanical site preparation. Where heavy equipment is used in mechanical site preparation, it usually intensely disturbs far more ground than yarding, roads, and landings.
d) Reduce unnecessarily duplicative language.
e) Add excessive rutting by yarding or site preparation equipment as evidence of saturated soil conditions.

The addition of the definition of the term "stable operating surface" is necessary because this term is utilized in the proposed changes to the regulations, but the existing regulations fail to provide a common, enforceable definition of the term that is being utilized.

The addition of the definition of the term "watersheds with threatened or impaired values" is necessary because this term is utilized in the proposed changes to the regulations, but the existing regulations fail to provide a common, enforceable definition of the term that is being utilized. This new definition is needed to ensure that special recognition is given to those watersheds where populations of anadromous salmonids that are listed as threatened or endangered under the State or Federal ESAs are currently supported or could feasibly be restored. It is also necessary to clearly discern those watersheds where more stringent forest practices are required.

ALTERNATIVES TO THE REGULATION CONSIDERED BY THE BOARD AND THE BOARD'S REASONS FOR REJECTING THOSE ALTERNATIVES

No other alternatives to these proposed regulations were presented to, or considered by the Board at this time.

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS

The Board has not identified any alternatives that would lessen any adverse impact on small businesses.

EVIDENCE SUPPORTING FINDING OF NO SIGNIFICANT ADVERSE ECONOMIC IMPACT ON ANY BUSINESS

The Board staff estimated that there are no significant costs associated with this proposed revision to the Rules. The Board has determined that the potential cost for this

regulation would be minimal; consisting of minor printing costs to the State if any costs are incurred. This cost would not exceed the costs normally incurred each year by the Department of Forestry and Fire Protection to print and distribute rule language to field personnel. Therefore, the proposed regulations would not have a significant adverse economic impact on any business.

POSSIBLE SIGNIFICANT ADVERSE ENVIRONMENTAL EFFECTS AND MITIGATIONS

The Board has not identified any adverse environmental effects from the proposed action.

14 CCR §§ 914.2 [934.2, 954.2] Tractor Operations

PUBLIC PROBLEM, ADMINISTRATIVE REQUIREMENT, OR OTHER CONDITION OR CIRCUMSTANCE THE REGULATION IS INTENDED TO ADDRESS

The existing rules presently limit heavy equipment operations to slopes no steeper than 65%. The Board Ad Hoc Watershed committee received testimony from state and federal agencies that this was to steep of a % of slope. The current standard is based on an average angle of repose for soil to stay in place under natural conditions. Agency testimony at the Ad Hoc Watershed Committee indicated that currently occurring erosion could be reduced if the % of slope on which heavy equipment was allowed was reduced. The committee accepted that testimony and is proposing a reduction to reduce potential erosion from operating heavy equipment on steep slopes.

SPECIFIC PURPOSE OF THE REGULATION

The proposed amendments are intended to reduce the amount of sedimentation reaching watercourses from timber operations. Tractors cannot operate on slopes greater than 40% without having to cut into the slope to establish a bench for safe operation and ability to pull logs. The cutting into the slope and disturbing the natural grade of the slope reduces stability and increases the potential for surface and mass erosion events. Limiting the percent (%) of slope for tractor operation also reduces the interruption of the natural ground slope and potential for increased erosion. The rule does allow exception to this limitation but only where there is a proposal by the Registered Professional Forester (RPF) preparing the THP and approval by the Director. All exceptions are to be mapped before plan approval. This ensures that there is multi-disciplinary review of the proposal by the review team before Director's approval. This includes water quality and the California Geologic Survey geologists. Actual site conditions are examined and considered by these experts before Director's approval. Again the purpose is to reduce the potential for either surface or mass erosion events.

NECESSITY

The reduction of slope from 65% to 60% for tractor operations under conditions specified in the rule is necessary to reduce the potential for soil erosion. During the Ad Hoc Watershed Committee discussions for this regulatory proposal state and federal agencies testified that inspections of timber operations have shown that the existing rule allows tractors to operate on excessively steep slopes and thus create soil erosion. These agencies included CDF, California Geologic Survey (CGS), Department of Fish

and Game (DFG), Regional Water Quality Control Board (RWQCB), and National Marine Fisheries Service (NMFS). The existing rule slope limitation had been based on the average natural angle of repose for soils in the Coast and Northern Forest Practice Districts. The agencies proposed a reduction of the slope limitation to 60% based of field experience over the past decade. The committee accepted this as advice and consultation of experts in the field according to PRC Section 4553 and 4551.5. The standard was proposed to and accepted by the Board on this basis.

ALTERNATIVES TO THE REGULATION CONSIDERED BY THE BOARD AND THE BOARD'S REASONS FOR REJECTING THOSE ALTENRNATIVE

Not other alternatives to this proposed regulation was present to, or considered by the Board at this time.

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS

The Board has not identified any alternatives that would lessen any adverse impact on small businesses.

EVIDENCE SUPPORTING FINDING OF NO SIGNIFICANT ADVERSE ECONOMIC IMPACT ON ANY BUSINESS

The Board staff estimated that there are no significant costs associated with this proposed revision to the Rules. The Board has determined that the potential cost for this regulation would be minimal; cable yarding has replaced tractor logging as a standard yarding system in most areas of steep slopes. This regulatory proposal will affect a small number of proposed operations on a statewide basis. Therefore, the proposed regulations would not have a significant adverse economic impact on any business.

POSSIBLE SIGNIFICANT ADVERSE ENVIRONMENTAL EFFECTS AND MITIGATIONS

The Board has not identified any adverse environmental effects from the proposed action.

14 CCR §§ 914.6 [934.6, 954.6] Waterbreaks

PUBLIC PROBLEM, ADMINISTRATIVE REQUIREMENT, OR OTHER CONDITION OR CIRCUMSTNCE THE REGULATION IS INTENDED TO ADDRESS

Sediment contributions to surface waters frequently occur when high intensity short duration storms occur over a timber harvesting area where erosion control facilities and structures have not been installed. This occurs most frequently with surprise summer period storms or the early advent of the winter period. Timing of installation of erosion control measures and the maintenance of that work then becomes important to the protection of the beneficial uses of water. This concern is well documented in the "Report of the Scientific Review Panel on California Forest Practice Rules and Salmonid Habitat", June 1999 (SRP) under recommendations.

SPECIFIC PURPOSE OF THE REGULATION

The Board in adopting the rules for Threatened and Impaired watersheds determined that the timing of the installation of waterbreaks should be guided by actual physical events, rather than projected time patterns. The Board has determined that this is more effective through application of the Threatened and Impaired Watershed (T&I) rules. Thus, this standard is being removed from the T&I rules and adopted permanently in this section. Drainage facilities are to be installed as soon as practical. Either before the start of rain that results in runoff or any day the Weather Service predicts a 30% chance of a flash flood warning.

NECESSITY

The SRP expressed concern about unexpected or untimely weather events being the cause for the delivery sediment into watercourse systems. This was primarily related to road systems but included tractor operations during the winter period or wet periods. The point of this is that the rules are now predicated on specific time periods for the termination of the use of heavy equipment. To prevent sedimentation of the waters of the state it is necessary to shift to a standard that can be easily determined on site by the timber operator. Thus, the Board has included the standards of "overland flow over as disturbed surface", and a Weather Service flash flood warning to guide timber operators. Both are easily discernible standards. This will prevent continuing operations during periods of high risk.

ALTERNATIVES TO THE REGULATION CONSIDERED BY THE BOARD AND THE BOARD'S REASONS FOR REJECTING THOSE ALTENRNATIVE

Not other alternatives to this proposed regulation was present to, or considered by the Board at this time.

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS

The Board has not identified any alternatives that would lessen any adverse impact on small businesses.

EVIDENCE SUPPORTING FINDING OF NO SIGNIFICANT ADVERSE ECONOMIC IMPACT ON ANY BUSINESS

The Board staff estimated that there are no significant costs associated with this proposed revision to the Rules. The Board has determined that the potential cost for this regulation would be minimal; consisting of minor printing costs to the State if any costs are incurred. This cost would not exceed the costs normally incurred each year by the Department of Forestry and Fire Protection to print and distribute rule language to field personnel. Therefore, the proposed regulations would not have a significant adverse economic impact on any business.

POSSIBLE SIGNIFICANT ADVERSE ENVIRONMENTAL EFFECTS AND MITIGATIONS

The Board has not identified any adverse environmental effects from the proposed action.

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

PUBLIC PROBLEM, ADMINISTRATIVE REQUIREMENT, OR OTHER CONDITION OR CIRCUMSTANCE THE REGULATION IS INTENED TO ADDRESS.

The existing rule speaks only to site preparation and "harvesting" with regard to the need for a Winter Operating Plan. This does not address the full scope of the definition of timber operations. The word was changed to apply to the full breadth of timber operations. There is also a need to address road and landing construction and reconstruction in a Winter Period plan as these activities are one of the activities with a severe potential for impacting the beneficial uses of water. Road surfacing activities were also included for the same reasons. These activities are amended into the rule.

Two other standards from the T&I rules have been found effective over the past two operating seasons and have been determined to belong in this section permanently. Those standards are 1) a 200 foot limitation on construction and reconstruction of tractor roads for WLPZ's ; 2) a prohibition of the use of logging roads and tractor roads when unstable soil conditions exist, with specified exceptions. These were included to add to effort to reduction of sedimentation occurring during unexpected storm events.

SPECIFIC PURPOSE OF THE REGULATION

The purpose is to assure that all aspects of timber operations conducted during the winter period are addressed for potential erosion impacts to water quality. This includes addressing potential impacts from road and landing construction and reconstruction.

NECESSITY

The amendments are necessary to ensure that all of the aspects of timber operations conducted during the Winter Period are reviewed for potential impacts to the beneficial uses of water. Roads and landing construction must be considered in winter period operations as this has one of the highest potentials for impact to water quality.

ALTERNATIVES TO THE REGULATION CONSIDERED BY THE BOARD AND THE BOARD'S REASONS FOR REJECTING THOSE ALTERNATIVES

No other alternatives to these proposed regulations were presented to, or considered by the Board at this time.

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS

The Board has not identified any alternatives that would lessen any adverse impact on small businesses.

EVIDENCE SUPPORTING FINDING OF NO SIGNIFICANT ADVERSE ECONOMIC IMPACT ON ANY BUSINESS

The Board has not identified any alternatives that would lessen any adverse impact on small businesses. The rule clarifies the requirement that the potential impacts of timber operations conducted during the Winter Period must be addressed, where currently it is implied through use of the term "harvesting". Since the result is the same there is no economic impact.

POSSIBLE SIGNIFICANT ADVERSE ENVIRONMENTAL EFFECTS AND MITIGATIONS

The Board has not identified any adverse environmental effects from the proposed action.

14 CCR §§ 914.8 [934.8, 954.8] Tractor Road Watercourse Crossings

PUBLIC PROBLEM, ADMINISTRATIVE REQUIREMENT, OR OTHER CONDITION OR CIRCUMSTANCE THE REGULATION IS INTENDED TO ADDRESS

In 1996, the State Fish and Game Commission listed Coho salmon south of San Francisco Bay as threatened under the State Endangered Species Act (ESA), and the Department of Fish and Game subsequently executed a 2090 agreement with the California Department of Forestry and Fire Protection (CDF) to provide additional protection for Coho salmon. In 1997, the National Marine Fisheries Service (NMFS) listed Coho salmon as threatened throughout its range in California under the Federal ESA, and Steelhead trout have been designated as candidate species.

Since 1988, much has been learned about the effectiveness of the Rules and implementation process, and there have been other major legal changes. Furthermore, a number of regulatory alternatives to CDF's usual Timber Harvesting Plan (THP) process have either been developed (e.g., Sustained Yield Plan, Non-industrial Timberland Management Plan, Modified THP, Program THP) or seen much wider application (e.g., exemptions, emergencies) in the intervening years. Exempt and emergency timber operations, which are not subject to interagency review, are perceived to be responsible for disproportionate significant adverse impacts.

The Z'berg-Nejedly Forest Practice Act of 1973 established the legislature's intent to protect and give consideration to the public's need for long-term watershed protection, fisheries and wildlife, and it directed the State Board of Forestry (BOF) to adopt regulations to control unreasonable effects on the beneficial uses of the State's waters. It now appears appropriate to establish regulations that specifically address timber harvesting operations in watersheds with threatened or impaired values. The changes in the Forest Practice Rules are necessary for maintaining the beneficial uses of water (which include aquatic habitat for threatened or endangered species) where they are in good condition, protecting them where they are threatened, and restoring them where they are impaired. This rulemaking package is intended to address the most immediately pressing issue; how to deal with timber operations in a watershed where populations of anadromous salmonids that are listed as threatened or endangered under the State or Federal ESAs are currently supported or could feasibly be restored.

SPECIFIC PURPOSE OF THE REGULATION

The proposed additional rule language under 14 CCR §§ 914.8 [934.8, 954.8] is intended to ensure that all tractor watercourse crossings are constructed to allow upstream and downstream movement of vertebrate aquatic species at all life stages, as well as the transport of water, which will ensure the adequate protection of listed anadromous salmonids.

NECESSITY

Inadequately designed crossings are often reported as among the worst contributors to the blockage of fish passage. Adequate minimum design standards are needed to protect fisheries habitat. Specific requirements are needed for crossings on Class I watercourses because these are documented as often impairing fish passage and by definition contain fish. They should be designed, located, and built to cause essentially no alteration of stream hydrologic and biologic functions. The proposed additional rule language under 14 CCR §§ 914.8 [934.8, 954.8] is needed to ensure tractor watercourse crossing installation does not impact fisheries habitat in Class I watercourses or the beneficial uses of the waters of the state.

ALTERNATIVES TO THE REGULATION CONSIDERED BY THE BOARD AND THE BOARD'S REASONS FOR REJECTING THOSE ALTERNATIVES

No other alternatives to these proposed regulations were presented to, or considered by the Board at this time.

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS

The Board has not identified any alternatives that would lessen any adverse impact on small businesses.

EVIDENCE SUPPORTING FINDING OF NO SIGNIFICANT ADVERSE ECONOMIC IMPACT ON ANY BUSINESS

The Board staff estimated that there are no significant costs associated with this proposed revision to the Rules. The change in rule language requires that a plan contain a description of a tractor watercourse crossing on a watercourse that supports fish. This additional information is not expected to result in a significant amount of additional plan preparation time of expense. Therefore, the proposed regulations would not have a significant adverse economic impact on any business.

POSSIBLE SIGNIFICANT ADVERSE ENVIRONMENTAL EFFECTS AND MITIGATIONS

The Board has not identified any adverse environmental effects from the proposed action.

14 CCR §§ 916.7 [936.7, 956.7] **Reduction of Soil Loss**

PUBLIC PROBLEM, ADMINISTRATIVE REQUIREMENT, OR OTHER CONDITION OR CIRCUMSTANCE THE REGULATION IS INTENDED TO ADDRESS

The Board determined that the current rule addressing timber operations during the Winter Period did not specifically address roads and landings. Road and landing construction and reconstruction has been identified by the SRP and other sources as one of the biggest contributors to sediment entering watercourse and becoming a limiting factor to listed species such as the Coho. Similarly, road surfacing activities have been found to contribute to sedimentation. The Board determined that further protection measures near watercourses must be added for roads and other disturbed areas to limit impacts to the beneficial uses of water and anadromous fisheries.

SPECIFIC PURPOSE OF THE REGULATION

The Board included additional protection measures for disturbed areas of soil in a list of activities that must be addressed in a winter operating plan. Two other standards from the T&I rules had been found effective during implementation and have been determined to belong in this section permanently. Those standards are 1) a 200 foot limitation on construction and reconstruction of tractor roads for WLPZ's; 2) a prohibition of the use of logging roads and tractor roads when unstable soil conditions exist, with specified exceptions. The purpose of both standards is to prevent the transport of sediment into watercourses or depositions where sediment can be transported into watercourses.

NECESSITY

The SRP has determined that the traveled surface of roads have deposited on them fine soil particles that can be transported into watercourses when water moves across their surface. The rules must deal specifically with this potential impact, particularly as it relates to the potential for storms with sufficient precipitation to cause water to flow over the surface of the roads. Storms of this type occur most often during what is historically the winter period for the California Mediterranean climate. The Board has put this time period in the proposed regulation. Also, summer thundershowers often occur in both interior and coastal mountain ranges. To allow for this it is necessary to insert a standard which relates to the occurrence of these events. That standard is reliance on weather forecasting. It is the best information available. Standard treatment practices for disturbed areas are included and identification of active erosion sites. The identification of active erosion sites has been show to be one of most effective investment of effort in reducing the transport of sediment into watercourses.

ALTERNATIVES TO THE REGULATION CONSIDERED BY THE BOARD AND THE BOARD'S REASONS FOR REJECTING THOSE ALTERNATIVES

No other alternatives to these proposed regulations were presented to, or considered by the Board at this time.

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS

The Board has not identified any alternatives that would lessen any adverse impact on small businesses.

EVIDENCE SUPPORTING FINDING OF NO SIGNIFICANT ADVERSE ECONOMIC IMPACT ON ANY BUSINESS

The Board staff estimated that there are no significant costs associated with this proposed revision to the Rules. Much of the erosion control work is specified in other Board regulations but this rule isolates that action to areas near watercourses specifically. This rule also requires more specific information in the plan which is a minimal cost for plan preparation. It does provide more detailed disclosure for the public and responsible agencies to identify potential impacts and design solutions before a plan is approved. Therefore, the proposed regulations would not have a significant adverse economic impact on any business.

POSSIBLE SIGNIFICANT ADVERSE ENVIRONMENTAL EFFECTS AND MITIGATIONS

The Board has not identified any adverse environmental effects from the proposed action.

14 CCR §§ 916.14 [936.14, 956.14] Effectiveness and Implementation Monitoring

PUBLIC PROBLEM, ADMINISTRATIVE REQUIREMENT, OR OTHER CONDITION OR CIRCUMSTANCE THE REGULATION IS INTENDED TO ADDRESS

The current permanent Forest Practice Rules do not require that effectiveness monitoring be conducted to determine whether the mitigation measures employed under the provisions of a Timber Harvesting Plan have resulted in adequate protection of resources. This type of effectiveness monitoring is especially important to determine if mitigation measures have been adequate to protect the beneficial uses of water including the protection of anadromous fish species.

SPECIFIC PURPOSE OF THE REGULATION

Where fish and other water-related values are already threatened or impaired, the project proponents may be required to demonstrate that such operations can take place without causing additional threat or damage. The proposed additional rule language under 14 CCR §§ 916.11 [936.11, 956.11] is intended to include evaluation of potential land failures, accelerated rate of road construction or harvesting within a watershed, concentration or intensity of harvesting activity near watercourses, and potential for accelerated wind throw. The design and implementation of the evaluation shall be done in consultation with the Director, the RWQCB or DFG, and THP submitter.

NECESSITY

Timber operations in a Class I WLPZ are among the most potentially deleterious to fish and other water-related values. Where these values are already threatened or impaired,

the project proponents must demonstrate that such operations can take place without causing additional threat or damage. The proposed additional rule language under 14 CCR §§ 916.11 [936.11, 956.11] is necessary to allow such operations, with additional evaluation of potential land failures, accelerated rate of road construction or harvesting within a watershed, concentration or intensity of harvesting activity near watercourses, and potential for accelerated wind throw. Over time, high-quality monitoring results can be used to further adapt timber management practices within Class I WLPZs so that practices are protective, but no more restrictive than necessary.

ALTERNATIVES TO THE REGULATION CONSIDERED BY THE BOARD AND THE BOARD'S REASONS FOR REJECTING THOSE ALTERNATIVES

No other alternatives to these proposed regulations were presented to, or considered by the Board at this time.

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS

The Board has not identified any alternatives that would lessen any adverse impact on small businesses.

EVIDENCE SUPPORTING FINDING OF NO SIGNIFICANT ADVERSE ECONOMIC IMPACT ON ANY BUSINESS

The Board staff estimated that the proposed changes to the regulations could result in additional costs to the timberland owner. Those costs are associated with the design and implementation of both short term and long term monitoring programs. However, these costs can vary widely depending on numerous factors including, but not limited to the type of parameters targeted for monitoring, the frequency of monitoring, the types of equipment necessary and available to conduct the monitoring, and numerous other factors. Broad estimates for monitoring indicate that average yearly monitoring cost could range from $30,000.00 to $50,000.00, and may exceed $100,000.00 depending on the extent of monitoring required, and the size of the area to be monitored. Considering the broad range of circumstances that would affect costs associated with the new requirements, the Board has determined that estimations of the potential cost for this regulation would be difficult to present in a format that would provide for meaningful public disclosure. However, the following estimations of costs associated with various portions of the proposed Rules are provided for consideration:

A requirement for long-term effectiveness monitoring could cause timberland owners to avoid operations within a Class I WLPZ to avoid the cost of the monitoring, if a monitoring program was not already in place. However, it will be hard to entirely avoid timber operations within the Class I WLPZ in most cases. If the timberland owner chooses to avoid operations within the WLPZ, they will be affected by cost associated with the reduction in LTSY, if they choose to operate within the WLPZ, they will be affected by the costs of long-term effectiveness monitoring. Costs estimates for monitoring along ¼ to 1 mile of Class I could include:

> For water temperature, one year of pre-harvest baseline data and one year of post-harvest data could cost about $1,000 to $3,000, including instruments,

labor, data processing, and reporting, if done by an RPF. This cost could double if done by a scientist, and could triple if a consultant do the work.

For no net increase in sediment, longer post-harvest monitoring would be needed, maybe 5 to 20 years. If the approved completion report equals the end of THP enforceability (except stocking and erosion maintenance), then the extent of "long term" may not be very long. Collection and analysis of sediment data is more costly than for temperature data. A short two- or three-year program may cost $4,000 to $10,000. A thorough long-term project over many years could run up to $20,000 or more.

For no net loss of LWD or recruitment potential, that should just be counting down and standing-future LWD, before and after; the cost could be $1,000 to $2,000.

As indicated in a previous section of this *Initial Statement of Reasons,* the Board staff also considered that increased levels of protection to watershed resources are likely to generate benefits that offset the costs anticipated from the change in the rules. Many of these increases could only be measured through an implementation/effectiveness monitoring program. Information from the Department of Fish and Game indicates an economic output from sport fishing in the State of approximately $7.1 billion in 1996. The sport fishing industry alone generated 74,000 jobs that year. Other studies show that the public spends hundreds of millions of dollars each year on sport fishing. Some economists in Oregon have estimated that households, on the average are willing to pay $2.50 to $7.00 per month to protect or restore salmon. Those figures show an estimated $3-8.75 million dollars per month that the public would be willing to spend to secure healthy anadromous fish habitat. Other values potentially derived from increased watershed protection could be attributed to a savings in necessary flood control in flood prone areas. Some estimates of $208 per acre have been suggested as savings in flood-damage and other costs on downstream firms and households. Cleaner streams and healthier riparian ecosystems could also contribute to recreation and tourism in other ways besides fishing. Although the benefits derived from the change in the regulations are as difficult to calculate as are the costs due to the range of variables, the Board staff believes that the majority of the costs will be offset over the long-term by the benefits derived from enhanced watershed management.

Considering the above cost estimates and the offsetting benefits derived from correct implementation of effective Rules to protect the beneficial uses of water, the Board staff has determined that the proposed regulations are not likely to result in an adverse economic impact on businesses over the long-term.

POSSIBLE SIGNIFICANT ADVERSE ENVIRONMENTAL EFFECTS AND MITIGATIONS

The Board has not identified any adverse environmental effects from the proposed action.

14 CCR §§ 923 [943, 963] **Logging Roads and Landings**

PUBLIC PROBLEM, ADMINISTRATIVE REQUIREMENT, OR OTHER CONDITION OR CIRCUMSTANCE THE REGULATION IS INTENDED TO ADDRESS

Currently a THP submitter could be required to develop a specific road plan that would address all the issues covered by this article of the Board regulations in the development of a broader planning document. The submitter would then be required to produce the same information for an individual THP where the information is already on file with the Director. This creates a duplication of effort on the part of a THP submitter.

One of the main efforts of these rules is to disconnect the road systems from the watercourses. This is the general thrust of the SRP Report with regard to road and watercourse crossing recommendations. Surface runoff from roads deposits sediment into watercourses where discharge in direct. Crossings not properly installed or maintained results in watercourses being diverted on to roads and then back into the watercourse. This results in road surface or prism erosion and deposition into the watercourse. This is the underlying problem that impacts the resource at risk (beneficial uses of water) and must be addressed.

SPECIFIC PURPOSE OF THE REGULATION

The purpose of this amendment is to reduce the work for a THP submitter where it has already been accomplished under a separate planning document. However, the regulation must at the same time result in a disconnect of road systems and watercourse systems. To assure this outcome the Board increases the proactive role of the responsible agencies (DFG, CGS, RWQCB, and NMFS).

NECESSITY

This amendment is necessary to prevent a redundancy in planning efforts and documentation of road systems which will not have a significant impact on the watercourses or the beneficial uses of water.

The separation of the road system and hydraulic system is necessary to reduce sediment from road surfaces and prisms from entering watercourses and impacting the beneficial uses of water (SRP Report, 1999). To assure that full expertise is brought to bear on this objective it is necessary to provide responsible agencies with a strong voice in what is an acceptable harvesting practice where beneficial uses of water and anadromous fisheries are at risk. To avoid delay for both the applicant and the agencies the Board chose to place the point of decision for alternative practices during the review team process. That is as opposed to allowing a final THP decision to occur by the Director and subsequent lengthy appeal processes to occur (PRC §§ 4582.7 and 4582.9).

ALTERNATIVES TO THE REGULATION CONSIDERED BY THE BOARD AND THE BOARD'S REASONS FOR REJECTING THOSE ALTERNATIVES

No other alternatives to these proposed regulations were presented to, or considered by the Board at this time.

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS

The Board has not identified any alternatives that would lessen any adverse impact on small businesses.

EVIDENCE SUPPORTING FINDING OF NO SIGNIFICANT ADVERSE ECONOMIC IMPACT ON ANY BUSINESS

The amendment, if any impact, reduces the cost of reproduction of work already performed for another planning document. That information would be reformatted and attached to the THP submitted.

POSSIBLE SIGNIFICANT ADVERSE ENVIRONMENTAL EFFECTS AND MITIGATIONS

The Board has not identified any adverse environmental effects from the proposed action.

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

PUBLIC PROBLEM, ADMINISTRATIVE REQUIREMENT, OR OTHER CONDITION OR CIRCUMSTANCE THE REGULATION IS INTENDED TO ADDRESS

Roads with long continuous steep grades tend to have heavy erosion as water has the ability to gather momentum using gravity. This section recognizes this and requires that erosion control measures are designed to address this problem. Crossings of Class I watercourses can restrict the passage of vertebrate aquatic species or affect their habitat. This section will address that potential in the planning phase of the THP process. Actions agreed to by the THP submitter and the Director must be enforceable or risk avoidance may not occur.

SPECIFIC PURPOSE OF THE REGULATION

The purpose of this amendment is to ensure roads are not constructed which will unnecessarily concentrate water flows and increase sediment production. Also, the amendment is intended to assure all crossings of Class I watercourses protect the beneficial uses of the states waters and result in minimal risk to anadromous fisheries.

NECESSITY

This amendment is necessary to ensure that where long-continuous roads with steep grades have erosion control of high enough quality to control overland water flow. If not done excessive road surface erosion, fill slope failure, or mass wasting due to unstable area saturation may occur. This has happened frequently where adequate planning and protection has not taken place. Currently there are instances where Class I watercourse crossings are constructed such that one or more life stages of anadromous salmonids are unable to use the length of a watercourse. This affects the reproductive capability of the species and may result in an impact to the local population. To avoid this risk it is necessary THPs are designed for unrestricted passage for fish and other vertebrate

aquatic species. The agreed upon designs must be described in an enforceable manner or the planning would be of no avail.

ALTERNATIVES TO THE REGULATION CONSIDERED BY THE BOARD AND THE BOARD'S REASONS FOR REJECTING THOSE ALTERNATIVES

No other alternatives to these proposed regulations were presented to, or considered by the Board at this time.

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS

The Board has not identified any alternatives that would lessen any adverse impact on small businesses.

EVIDENCE SUPPORTING FINDING OF NO SIGNIFICANT ADVERSE ECONOMIC IMPACT ON ANY BUSINESS

The amendment clarifies the action that should already occur under broader direction provided by the rules. Therefore this amendment does not have an identifiable economic impact.

POSSIBLE SIGNIFICANT ADVERSE ENVIRONMENTAL EFFECTS AND MITIGATIONS

The Board has not identified any adverse environmental effects from the proposed action.

14 CCR §§ 923.2 [943.2, 963.2] **Road Construction**

PUBLIC PROBLEM, ADMINISTRATIVE REQUIREMENT, OR OTHER CONDITION OR CIRCUMSTANCE THE REGULATION IS INTENDED TO ADDRESS

The proposed additional rule language under 14 CCR §§ 923.2 [943.2, 963.2], subsection (w) is intended to establish appropriate standards for the width of logging roads, and to include appropriate specifications for road drainage in watersheds with threatened or impaired values.

The proposed additional rule language under 14 CCR §§ 923.2 [943.2, 963.2], subsection (x) is intended to provide information on the limiting factors associated with road construction, and on road designs, which will help to determine if the specified provisions for road construction are adequate to reduce the risk to water-related values. The rule is also intended to provide specifications related to road construction and the deposition of spoils, as well as requirements for re-contouring of slopes if fills are removed.

The proposed additional rule language under 14 CCR §§ 923.9 [943.9, 963.9], subsection (y) is intended to ensure that the proposed measures regarding the location, design, placement, and removal of drainage structures and erosion control features, and the rationale used to develop them are included in the plan and can be evaluated. The rule language is also intended to establish specific minimum requirements for drainage

structures and erosion control features in watersheds with threatened or impaired values.

Subsection (z) is needed to reduce the risk of disturbed soil near the watercourse (channel zone) introducing sediment into the watercourse. Exception must be provided where watercourse crossings are otherwise permitted in this regulatory proposal and where public health and safety is at risk.

SPECIFIC PURPOSE OF THE REGULATION

The purpose of this amendment is to improve road and landing construction and reconstruction practices to reduce impacts to the beneficial uses of water including maintenance of suitable habitat for listed species maintenance and recovery

The proposed additional rule language under 14 CCR §§ 923.2 [943.2, 963.2], subsection (w) is intended to establish appropriate standards for the width of logging roads, and to include appropriate specifications for road drainage in watersheds with threatened or impaired values.

The proposed additional rule language under 14 CCR §§ 923.2 [943.2, 963.2], subsection (x) is intended to provide information on the limiting factors associated with road construction, and on road designs, which will help to determine if the specified provisions for road construction are adequate to reduce the risk to water-related values. The rule is also intended to provide specifications related to road construction and the deposition of spoils, as well as requirements for recontouring of slopes if fills are removed.

The proposed additional rule language under 14 CCR §§ 923.9 [943.9, 963.9], subsection (y) is intended to ensure that the proposed measures regarding the location, design, placement, and removal of drainage structures and erosion control features, and the rationale used to develop them are included in the plan and can be evaluated. The rule language is also intended to establish specific minimum requirements for drainage structures and erosion control features in watersheds with threatened or impaired values.

Subsection (z) is to reduce the risk of sediment from near watercourse operation entering the system and impacting habitat potential for anadromous fisheries.

NECESSITY

Currently, there is no regulatory mechanism to achieve watershed-scale road planning and management, but road systems within ownerships within watersheds can be managed.

The wider the road (and inside ditch) the higher, and therefore less stable, the cutbank and the more spoils will be generated. Inside ditches concentrate and divert runoff into areas not adapted to receiving the additional flows. The proposed additional rule language under 14 CCR §§ 923.2 [943.2, 963.2], subsection (w) is necessary to minimize mass wasting potential. New roads must be as narrow and hydrologic ally invisible as possible. Rolling dips are generally preferred because they do not need to be removed for road use and are not as easily damaged as water bars. Field

observations indicate that rolling dips lose their effectiveness where road grades exceed 7 percent.

Fill and cutslope failures are primary sources of sediment delivered from roads. Where new roads are to cross steep slopes, information is needed on the limiting factors and on road designs that are needed to reduce the risk to water-related values. The proposed additional rule language under 14 CCR §§ 923.9 [943.9, 963.9], subsection (c) is needed to provide such information.

Roads with steep grades transport water at higher rates of speed, which could result in damage to the road's surface, and the transport of road surface materials into a watercourse. The proposed additional rule language under 14 CCR §§ 923.9 [943.9, 963.9], subsection (d) is necessary to ensure that roads with steep grades are adequately surfaced to prevent the breakdown of the road's surface, and the subsequent transport of sediment to a watercourse.

The proposed additional rule language under 14 CCR §§ 923.9 [943.9, 963.9], subsection (e) is needed to address those situations that pose threats of additional sediment loading, either directly or through inability to perform needed maintenance. The rule is needed to reduce this elevated risk where it exists by removing, oversizing or reinforcing drainage structures and erosion control features, or designing them to be self-maintaining. This provision is necessary to ensure that the proposed measures and the rationale used to develop them are included in the plan and can be evaluated.

ALTERNATIVES TO THE REGULATION CONSIDERED BY THE BOARD AND THE BOARD'S REASONS FOR REJECTING THOSE ALTERNATIVES

No other alternatives to these proposed regulations were presented to, or considered by the Board at this time.

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS

The Board has not identified any alternatives that would lessen any adverse impact on small businesses.

EVIDENCE SUPPORTING FINDING OF NO SIGNIFICANT ADVERSE ECONOMIC IMPACT ON ANY BUSINESS

The amendment clarifies those actions that should already occur under broader direction provided by the rules. Therefore this amendment does not have an identifiable economic impact.

POSSIBLE SIGNIFICANT ADVERSE ENVIRONMENTAL EFFECTS AND MITIGATIONS

The Board has not identified any adverse environmental effects from the proposed action.

14 CCR §§ 923.3 [943.3, 963.3] **Watercourse Crossings**

PUBLIC PROBLEM, ADMINISTRATIVE REQUIREMENT, OR OTHER CONDITION OR CIRCUMSTANCE THE REGULATION IS INTENDED TO ADDRESS

In 1996, the State Fish and Game Commission listed Coho salmon south of San Francisco Bay as threatened under the State Endangered Species Act (ESA), and the Department of Fish and Game subsequently executed a 2090 agreement with the California Department of Forestry and Fire Protection (CDF) to provide additional protection for Coho salmon. In 1997, the National Marine Fisheries Service (NMFS) listed Coho salmon as threatened throughout its range in California under the Federal ESA, and Steelhead trout have been designated as candidate species.

Since 1988, much has been learned about the effectiveness of the Rules and implementation process, and there have been other major legal changes. Furthermore, a number of regulatory alternatives to CDF's usual Timber Harvesting Plan (THP) process have either been developed (e.g., Sustained Yield Plan, Nonindustrial Timberland Management Plan, Modified THP, Program THP) or seen much wider application (e.g., exemptions, emergencies) in the intervening years. Exempt and emergency timber operations, which are not subject to interagency review, are perceived to be responsible for disproportionate significant adverse impacts.

The Z'berg-Nejedly Forest Practice Act of 1973 established the legislature's intent to protect and give consideration to the public's need for long-term watershed protection, fisheries and wildlife, and it directed the State Board of Forestry (BOF) to adopt regulations to control unreasonable effects on the beneficial uses of the State's waters. It now appears appropriate to establish regulations that specifically address timber harvesting operations in watersheds with threatened or impaired values. The changes in the Forest Practice Rules are necessary for maintaining the beneficial uses of water (which include aquatic habitat for threatened or endangered species) where they are in good condition, protecting them where they are threatened, and restoring them where they are impaired. This rulemaking package is intended to address the most immediately pressing issue; how to deal with timber operations in a watershed where populations of anadromous salmonids that are listed as threatened or endangered under the State or Federal ESAs are currently supported or could feasibly be restored.

SPECIFIC PURPOSE OF THE REGULATION

The proposed additional rule language under 14 CCR §§ 923.3 [943.3, 963.3] is intended to ensure that all watercourse crossings are constructed to allow passage of debris to prevent blockage by requiring them to accommodate the waters from a 100 year flood event and natural movement of bedload. The proposed additional rule language is also intended to provide minimum specifications for permanent culverts installed within Class I watercourses to ensure the adequate protection of aquatic species. These specifications are intended to address upstream and downstream movement of aquatic species at all life stages, as well as the transport of water, sediment, and debris at 100-year flood levels.

NECESSITY

Undersized culverts may fail during periods of peak flow. The failure could contribute excessive amounts of sediment and debris downstream. The deposition of sediment into the watercourse can increase turbidity and result in aggradation of the watercourse channel. This would result in adverse impacts to the beneficial use of water including impacts to drinking water and fisheries habitat. The proposed additional rule language under 14 CCR §§ 923.3 [943.3, 963.3] is necessary to ensure that culverts are of an adequate size to avoid failure during peak flow events.

Furthermore, inadequately designed and maintained new permanent culverts are often reported as among the worst contributors to additional sediment loading and blockage of fish passage. Adequate minimum design standards are needed to protect water-related values. Specific requirements are needed for culvert sizing and installation for Class I watercourses because these are documented as often impairing fish passage. They should be designed, located, and built to cause essentially no alteration of stream hydrologic and biologic functions. This should be confirmed by either: (i) analysis by a California-licensed Professional Engineer or (ii) compliance with the conservative design standards set forth in this section. The proposed additional rule language under 14 CCR §§ 923.3 [943.3, 963.3] is needed to ensure new permanent culvert installation does not impact fisheries habitat in Class I watercourses.

ALTERNATIVES TO THE REGULATION CONSIDERED BY THE BOARD AND THE BOARD'S REASONS FOR REJECTING THOSE ALTERNATIVES

No other alternatives to these proposed regulations were presented to, or considered by the Board at this time.

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS

The Board has not identified any alternatives that would lessen any adverse impact on small businesses.

EVIDENCE SUPPORTING FINDING OF NO SIGNIFICANT ADVERSE ECONOMIC IMPACT ON ANY BUSINESS

The Board staff estimated that there may be costs associated with this proposed revision to the Rules. Depending on the circumstances and previous management of a parcel, the proposed change in crossings from 50-year to 100-year could result in increased cost of $500 to $2,000.

Redesigning culverts on Class I watercourses to collect bedload, including the requirement that the culvert be as wide as the channel may lead to use of non-round culverts (e.g. elliptical), or to more use of bridges and arches on large streams. These structures are more expensive to buy and install than round pipes. Stream cross sections tend to be wider than they are deep, so a round pipe sized for discharge capacity alone probably won't meet the requirements of this rule. This change in the Rules could result in an average cost increase of 15% per new Class I crossing, or $500 to $5,000 per plan.

The 20% countersink requirement could reduce the cross sectional area of the culvert by a little over 14%. Getting this 14% back requires increasing the pipe diameter by about 7% (although 20% of this additional diameter would also have to be buried). These increases are similar in scale to the effect of going from 50-year to 100-year sizing, but are cumulative. There could be an additional cost of the 20% countersink of Class I culverts at between $300 and $1,500 per plan, when you consider many plans with no culverted Class I crossings, and a few with rather expensive crossings.

In order to prevent headwall cutting that could result from dropping the pipe, the landowner may have to use riprap, maybe stair stepped to allow fish passage. The average crossing may need 10 tons at $25 per ton delivered, plus $250 for placement. This would result in a cost of $500. If this cost were averaged over many plans without new Class I crossings, it may only be $100 per plan.

As indicated in a previous section of this *Initial Statement of Reasons,* the Board staff also considered that increased levels of protection to watershed resources are likely to generate benefits that offset the costs anticipated from the change in the rules. Many of these increases are expected to result from the construction of improved watercourse crossing facilities. These improved facilities will primarily reduce blockage to anadromous fish and will also reduce sediment input, which will greatly enhance spawning and rearing habitat for anadromous fish species. Information from the Department of Fish and Game indicates an economic output from sport fishing in the State of approximately $7.1 billion in 1996. The sport fishing industry alone generated 74,000 jobs that year. Other studies show that the public spends hundreds of millions of dollars each year on sport fishing. Some economists in Oregon have estimated that households, on the average are willing to pay $2.50 to $7.00 per month to protect or restore salmon. Those figures show an estimated $3-8.75 million dollars per month that the public would be willing to spend to secure healthy anadromous fish habitat. Other values potentially derived from increased watershed protection could be attributed to a savings in necessary flood control in flood prone areas. Some estimates of $208 per acre have been suggested as savings in flood-damage and other costs on downstream firms and households. Cleaner streams and healthier riparian ecosystems could also contribute to recreation and tourism in other ways besides fishing. Although the benefits derived from the change in the regulations are as difficult to calculate as are the costs due to the range of variables, the Board staff believes that the majority of the costs will be offset over the long-term by the benefits derived from enhanced watershed management.

Considering the above cost estimates and the offsetting benefits derived from improved watercourse crossings to protect the beneficial uses of water, the Board staff has determined that the proposed regulations are not likely to result in an adverse economic impact on businesses over the long-term.

POSSIBLE SIGNIFICANT ADVERSE ENVIRONMENTAL EFFECTS AND MITIGATIONS

The Board has not identified any adverse environmental effects from the proposed action.

14 CCR § 923.5 [943.5, 963.5] **Landing Construction**

PUBLIC PROBLEM, ADMINISTRATIVE REQUIREMENT, OR OTHER CONDITION OR CIRCUMSTANCE THE REGULATION IS INTENDED TO ADDRESS

The construction of landing near watercourses creates a significant potential for erosion of soil and deposition within the watercourse. Landings have historically been located near streams when tractor logging is utilized since logs are yarded downhill. Past practice was that the landings would then end up near a watercourse. This has changed under the current forest practice rules to where landing construction is only allowed within a WLPZ if carefully designed to avoid transport of sediment utilizing the expertise of all responsible agencies. However, even with such care there is still a potential for sediment transport under unusual weather events. This rule speaks to that risk factor.

SPECIFIC PURPOSE OF THE REGULATION

The purpose of this regulation is to simply further reducing the risk of sediment transport from landings into watercourses. Only exceptions mandated through approved watercourse crossings or public health and safety issues are to be permitted.

NECESSITY

This regulation is necessary to further reduce the risk of sediment being transported from landings into watercourses. Only exceptions mandated through approved watercourse crossings or public health and safety issues are to be permitted. The construction of landing near watercourses creates a significant potential for erosion of soil and deposition within the watercourse. Landings have historically been located near streams when tractor logging is utilized since logs are yarded downhill. Past practice was that the landings would then end up near a watercourse. This has changed under the current forest practice rules to where landing construction is only allowed within a WLPZ if carefully designed to avoid transport of sediment utilizing the expertise of all responsible agencies. However, even with such care there is still a potential for sediment transport under unusual weather events.

ALTERNATIVES TO THE REGULATION CONSIDERED BY THE BOARD AND THE BOARD'S REASONS FOR REJECTING THOSE ALTERNATIVES

No other alternatives to these proposed regulations were presented to, or considered by the Board at this time.

ALTERNATIVES TO THE PROPOSED ACTION THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS

The Board has not identified any alternatives that would lessen any adverse impact on small businesses.

EVIDENCE SUPPORTING FINDING OF NO SIGNIFICANT ADVERSE ECONOMIC IMPACT ON ANY BUSINESS

The Board staff estimated that there are no significant costs associated with this proposed rule revision to the Rules. The Board has determined that the potential cost

for these regulations would be minimal. This subsection simply restates a criteria placed on timber operations in 14 CCR § 916.9 [936.9, 956.9] but does allow exceptions which would, in those cases may reduce overall timber harvesting costs.

POSSIBLE SIGNIFICANT ADVERSE ENVIRONMENTAL EFFECTS AND MITIGATIONS

The Board has not identified any adverse environmental effects from the proposed action. Any approved watercourse crossing has already be determined elsewhere in the rules to have less than significant impacts.

14 CCR § 923.8 [943.8, 963.8] Planned Abandonment of Roads Watercourses and landings

PUBLIC PROBLEM, ADMINISTRATIVE REQUIREMENT, OR OTHER CONDITION OR CIRCUMSTANCE THE REGULATION IS INTENDED TO ADDRESS

The SRP stated "….Numerous interviewees, including agency representatives, environmental representatives, and other resource specialists felt very strongly that road maintenance should be extended well beyond the current three years. There were three common themes from these commentators: (1) roads should be maintained throughout their useful life; (2) roads should be designed in such a way as to be nearly maintenance free, except at watercourse crossings (outslope roads where feasible); and (3 roads that are not necessary for long-term use should be appropriately abandoned by heavily out sloping the roads, and pulling all watercourse crossings back to the natural gradient. The same interviewees felt that the lack of road maintenance of old "legacy" roads, as well as more contemporary roads that are not being adequately maintained, were critical sources sediment." This along with other documents (MSG, 1999) strongly state that roads are one of the major sources of sediment entering hydraulic systems.

SPECIFIC PURPOSE OF THE REGULATION

The purpose of this regulation is to address the long-term sediment contribution of permanent roads to watercourses and the impacts of that sediment.

NECESSITY

The requirement to discuss and state the efforts to be used for road abandonment and other mitigation measures in the plan is necessary enable the Director and responsible agencies to effectively evaluate the potential impacts of a long-term transportation system to the beneficial uses of water. Roads are a major contributor to watercourse sedimentation as discussed in this public problem statement. Information must be provided to the multi-disciplinary THP review team to ensure the maximum possible expertise is applied in reducing the impacts of long-term transportation systems to watercourses and the beneficial uses of water. The SRP made two pertinent recommendations in this area:

> "14. All permanent forest roads (essentially all rural and wildland roads) must be maintained throughout their life. When roads are no longer needed in the near-term, these roads must be temporarily or permanently abandoned by out sloping

and removal of watercourse crossing back to the natural stream gradient. The rules at CCR 923.8 specifically address road abandonment procedures. Any rule modifications should consider the partial abandonment of roads that would allow, where feasible, the passage of four-wheel drive vehicles to provide fire suppression access as well as on-going management or ranching.

15. All roads, permanent, temporary, abandoned and legacy roads that are generating, or have the potential to generate, sediment and are in the WLPZ (except at watercourse crossings) should be removed and stabilized. Some state incentive or cost-sharing program should be developed to implement this recommendation."

These paragraphs are too specific in recommendation, in that, adoption as stated would preclude many other opportunities for THP submitters and agencies to develop effective practices to avoid sedimentation of watercourses. The Board thus is proposing a performance standard which allows full use of available expertise in the development of mitigations.

ALTERNATIVES TO THE REGULATION CONSIDERED BY THE BOARD AND THE BOARD'S REASONS FOR REJECTING THOSE ALTERNATIVES

No other alternatives to these proposed regulations were presented to, or considered by the Board at this time.

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS

The Board has not identified any alternatives that would lessen any adverse impact on small businesses.

EVIDENCE SUPPORTING FINDING OF NO SIGNIFICANT ADVERSE ECONOMIC IMPACT ON ANY BUSINESS

The Board staff estimated that there are no significant costs associated with this proposed rule revision to the Rules. The Board has determined that the potential cost for this regulation would be minimal. This subsection provides the THP submitter and the permitting agencies to develop the most cost effective means of avoiding transportation system delivery of sediment to watercourses.

POSSIBLE SIGNIFICANT ADVERSE ENVIRONMENTAL EFFECTS AND MITIGATIONS

The Board has not identified adverse environmental effects from the proposed action.

14 CCR § 1050 EROSION CONTROL MAINTENANCE

PUBLIC PROBLEM, ADMINISTRATIVE REQUIREMENT, OR OTHER CONDITION OR CIRCUMSTNCE THE REGULATION IS INTENDED TO ADDRESS

The SRP stated "….Numerous interviewees, including agency representatives, environmental representatives, and other resource specialists felt very strongly that road

maintenance should be extended well beyond the current three years. There were three common themes from these commentators: (1) roads should be maintained throughout their useful life; (2) roads should be designed in such a way as to be nearly maintenance free, except at watercourse crossings (out slope roads where feasible); and (3 roads that are not necessary for long-term use should be appropriately abandoned by heavily out sloping the roads, and pulling all watercourse crossings back to the natural gradient. The same interviewees felt that the lack of road maintenance of old "legacy" roads, as well as more contemporary roads that are not being adequately maintained, were critical sources sediment." This along with other documents (MSG, 1999) strongly state that roads are one of the major sources of sediment entering hydraulic systems. Both the MSG, 1999 and the SRP report strongly state the need for the maintenance of erosion controls (14 CCR § 895.1).

SPECIFIC PURPOSE OF THE REGULATION

The purpose of this regulation is to address the long-term sediment contribution of permanent roads to watercourses and the impacts of that sediment.

NECESSITY

The proposed additional rule language under 14 CCR § 1050 is needed to address those situations that pose threats of additional sediment loading, either directly or through inability to perform needed maintenance. Current language in existing subsections (d) and (e) is self contradictory and duplicative. This must be corrected. The SRP report (page 50, 52 and 53) stress the need for maintenance of road erosion controls. Based on this and testimony of agencies with expertise during the Ad Hoc Watershed Committee meeting the Board determined that erosion controls maintenance must be mandatory. The three year period is the maximum allowed under PRC § 4562.9.

ALTERNATIVES TO THE REGULATION CONSIDERED BY THE BOARD AND THE BOARD'S REASONS FOR REJECTING THOSE ALTERNATIVES

No other alternatives to these proposed regulations were presented to, or considered by the Board at this time.

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS

The Board has not identified any alternatives that would lessen any adverse impacts on small business.

EVIDENCE SUPPORTING FINDING OF NO SIGNIFICANT ADVERSE ECONOMIC IMPACT ON ANY BUSINESS

The Board staff estimated that there are no significant costs associated with this proposed rule revision to the Rules. The Board has determined that the potential cost for this regulation would be minimal. Under existing regulation the maintenance period for erosion controls on roads may be extended up to three years by the Director. The three year period has become the standard of application based on field experience. There would be no added cost over and above this existing application of standards.

Regardless, if one year is normal, then additional costs could be from $500 for a few inspections to $5,000+ if things need to be fixed.

POSSIBLE SIGNIFICANT ADVERSE ENVIRONMENTAL EFFECTS AND MITIGATIONS.

The Board has not identified any adverse environmental effects from the proposed standard.

TECHNICAL, THEORETICAL, AND/OR EMPIRICAL STUDY, REPORTS, OR DOCUMENTS

The Board of Forestry and Fire Protection consulted the following listed information and/or publications as referenced in this *Initial Statement of Reasons.* The information was provided by the California State Water Resources Control Board, the California Regional Water Quality Control Boards, the California Department of Fish and Game, the California Department of Forestry and Fire Protection, the Monitoring Study Group of the California State Board of Forestry and Fire Protection, the Board staff, and other sources to address potential adverse impacts to watercourses with threatened or impaired values (available upon request). Unless otherwise noted in this *Initial Statement of Reasons*, the Board did not rely on any other technical, theoretical, or empirical studies, reports or documents in proposing the adoption of this regulation.

1. Letter to Mr. Robert Kerstiens, Chairman, Board of Forestry and Fire Protection from California Environmental Protection Agency and the Resources Agency, with proposed Rules, June 30, 1999.
2. Interim Report to the California State Board of Forestry and Fire Protection, Hillslope Monitoring Program: Monitoring Results from 1996 through 1998 (June, 1999)
3. Explanation and Justification for Proposed Forest Practice Rules Addressing Watersheds with Threatened or Impaired Values
4. Coho Salmon Biological Opinion and 2090 Agreement for Timber Harvest Plans South of San Francisco Bay, May 7, 1996.
5. Coho Salmon (*Oncorhynchus kisutch*) Considerations for Timber Harvests under the California Forest Practice Rules, April 29, 1997.
6. Special Order to Provide Incidental Take of Coho Salmon South of San Francisco Bay during Candidacy Period, May 9, 1994.
7. Draft Rule Language, Coho Considerations, 1999.
8. Proposed Forest Practice Rule Modifications; affected sections, May 10, 1999.
9. Public Ressources Code §§ 4551, 4513, 4514.3, 4551.5, 4551.7, 4552, 4553, 4562.5, 4562.7, 4562.9, 4582, and 4584 *et seq*.
10. Fish and Game Code.
11. Barclays Official California Code of Regulations
12. Letter to the State Water Resources Control Board from USEPA, May 12, 1999.
13. 1998 California 303(d) List and TMDL Priority Schedule, May 12, 1999.
14. Monitoring Guidelines to Evaluate Effects of Forestry Activities on Streams in the Pacific Northwest and Alaska; Lee H. MacDonald, Smart Alan, W., and Wissmar, Robert C., 1991.
15. California's Nonpoint Source Pollution Control Program, Public Release Draft including cover letter, July 2, 1999.

16. Report of the Scientific Review Panel on California Forest Practice Rules and Salmonid Habitat, Scientific Review Panel, June 1999.
17. TMDLs-What are they and how do they work?, NCRWQCB.
18. Current Treatment of Slope Stability Issues in the THP Process, Report to the Board of Forestry, William C. Stewart, February 1999.
19. Note 45-Guidelines for Geologic Reports for Timber Harvesting, California Department of Conservation, Division of Mines and Geology, Rev. 7/97.
20. Note 50-Factors Affecting Landslides in Forested Terrain, California Department of Conservation, Division of Mines and Geology, Rev. 6/97.
21. Matrix of Riparian and Watercourse Prescriptions, July 1999.
22. Estimated Costs Associated with Proposed New Forest Practice Rules, CDF et al; June, 1999.
23. Related Cost/Benefit Summary Information utilized, in part, in developing economic estimations related to the proposed Rules.
24. Long Range Plan for the Klamath River Basin Conservation Area Fishery Restoration Program; William M. Kier Associates; January 1991.
25. Analysis, Economic Impacts of Proposed Watershed Rules Announced by the California Board of Forestry and Fire Protection on July 23, 1999; Professor William McKillop; College of Natural Resources; University of California, Berkeley.
26. Sensitive Watersheds with 1% or More Private Forest Land, Map, FRAP.
27. 303D TMDL Priority Watersheds and River Reaches, Map, USDA.
28. Level II: The Morphological Description.
29. Proposed Rule, Class I WLPZ, graphic display.
30. 303d Listed Streams and Associated Watersheds, map.
31. 303d Listed Streams and Associated Watersheds, map.
32. Northern California Coastal Salmon and Extent of Forest Land, map
33. 303d Listed Streams and Evolutionarily Significant Units for Coho, Steelhead and Chinook, map.
34. 303d Listed Streams and Associated Watersheds, map.
35. Extent of Land and Evolutionarily Significant Units for Coho, Steelhead and Chinook, map.
36. 303d Listed Streams and Private Forest Land, map.
37. Extent of Private Forest Land and Evolutionarily Significant Units for Coho, Steelhead and Chinook, map.
38. Letter from NMFS to Board of Forestry, December 3, 1999; Includes: 1) Draft Salmonid Conservation Measures for Forestry Activities for a Short term HCP, 1999, 2) Federal Register/Vol. 64, No. 210, 3) Federal Register/Vol. 61., No. 212, 4) other supporting references.
39. Questions and Answers about the ESA Proposed 4(d) Rules for Pacific Salmon, National Marine Fisheries Service, December, 1999.
40. National Marine Fisheries Service Coho Salmon Briefing Package.
41. A Presentation to the California State Board of Forestry and Fire Protection on Implementation and Effectiveness of the Watercourse and Lake Protection Rules, Forest Practices Program Staff, California department of Forestry and Fire Protection, November 1, 1999.
42. Monitoring Study Group Strategic Plan, California State Board of Forestry and Fire Protection, California Department of Forestry and Fire Protection, January, 2000.

43. Forestry's Role in the Protection of Pacific Salmon Habitat in Forested Watersheds; a Regional Position Statement of the Society of American Foresters Units in Alaska, California, Idaho, Oregon and Washington.
44. Letter to Board of Supervisors, Trinity County, from Five Counties Salmonid Conservation Plan Advisory Committee; including report titled "Effects of County Land Use Regulations and Management on Anadromous Salmonids and Their Habitats: Humboldt, Del Norte, Mendocino, Siskiyou and Trinity Counties".
45. Preventing Salmon Extinction: Forest Practice Guidelines; A Report by the Pacific Rivers Council, June 16, 1999.
46. FEMAT Riparian Process Effectiveness Curves: What is Science-Based and What is Subjective Judgement?; Prepared for the Oregon Forest Industries Council; CH2Mhill, Portland, Oregon and Western Watershed Analysts, Lewiston, Idaho; August, 1999.
47. Influence of the Ocean Climate Shift on British Columbia Steelhead (*Oncorhynchus mykiss*) Populations; D.W. Welch, B.R. Ward, B.D. Smith, and J.P. Eveson; British Columbia;.
48. Nature, Not Man, is Responsible for West Coast Salmon Decline; John Carlisle; July, 1999.
49. Inverse Production Regimes: Alaska and West Coast Salmon; Steven R. Hare, Nathan J. Mantua, and Robert C. Francis; January, 1999.
50. Influence of Streamside Cover and Stream Features on Temperature Trends in Forested Streams of Western Oregon; Maciej A. Zwieniecki and Michael Newton; Corvallis; Western Journal of Applied Forestry; Vol. 14; No. 2; April 1999.
51. Economic and Environmental Impact Assessment of Forest Policy in Western Washington; Bruce Lippke and Bruce Bare; Timber West; July, 1999.
52. Long-term Climate Trends and Salmon Population; George H. Taylor and Chad Southards; April, 1997.
53. Forestry Impacts on Freshwater Habitat of Anadromous Salmonids in the Pacific Northwest and Alaska-Requirements for Protection and restoration; Michael L. Murphy; October, 1995.
54. Forest-Fisheries Management Relationships in Northern California; Forests & Salmon, The Forest Foundation; August, 1998.
55. Ten Mile River Watershed 1997 Instream Monitoring Results; Jonathan Ambrose and David Hines; The Timber Company; June, 1998.
56. Erosion on logging Roads in Redwood Creek, Northwestern California; Raymond M. Rice; Journal of the American Water Resources Association; Vol. 35; No. 5; October, 1999.
57. Implementation Plan for the Redwood Creek Watershed TMDL; Prepared with the assistance of Pillsbury Madison & Sutro LLP; May 1999.
58. Letter to Mark Hite from the Scientific Review Panel; SRP Input Regarding Channel Issues; December 3, 1999.
59. Ocean Conditions and the Management of Columbia River Salmon; Edited by Gustavo A. Bisbal; Oregon; July 1, 1999.

Pursuant to Government Code § 11346.2(b)(6): In order to avoid unnecessary duplication or conflicts with federal regulations contained in the Code of Federal Regulations addressing the same issues as those addressed under the proposed regulation revisions listed in this *Statement of Reasons*; the Board has directed the staff to review the Code of Federal Regulations. The Board staff determined that no unnecessary duplication or conflict exists.

PROPOSED TEXT

The proposed revisions or additions to the existing rule language are represented in the following manner:

1) language existing before 7/01/00 is shown in PLAIN TEXT,
2) language existing as part of the 2001 interim rules is DOUBLE-SPACED AND SINGLE UNDERLINED,
3) Proposed adoptions, deletions and amendments to the current and interim language are shown as ~~STIKETHROUGH~~ and DOUBLE-UNDERLINED

All other text is existing rule language.

JLM – 07-16-02
File: Road Rule ISOR 7-16