Threatened or Impaired Watershed Rules, 2009

[Published May 8, 2009]

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

Amend:

§ 895	Abbreviations Applicable Throughout the Chapter.
§ 895.1	Definitions.
§ 898	Feasibility Alternatives.
§ 914.8 [934.8, 954.8]	Tractor Road Watercourse Crossing.
§ 916.5 [936.5, 956.5].	Procedure for Determining Watercourse and Lake Protection Zone (WLPZ) Widths and Protective Measures
§ 916 [936, 956]	Intent of Watercourse and Lake Protection.
§ 916.2 [936.2, 956.2]	Protection of the Beneficial Uses of Water and Riparian Functions.
§ 916.9 [936.9, 956.9]	Protection and Restoration in Watersheds with Threatened or Impaired Values.
§ 916.11 [936.11, 956.11]	Effectiveness and Implementation Monitoring.
§ 916.12 [936.12, 956.12]	Section 303(d) Listed Watersheds.
§ 923.3 [943.3, 963.3]	Watercourse Crossings.
§ 923.9 [943.9, 963.9]	Roads and Landings in Watersheds with Threatened or Impaired Values.

Text Legend:

Existing rule language deleted as part of proposal**:** ~~strikeout arial font~~

New language proposed: underscore arial font

Optional Amendments: ***[****italics courier new font****]***

Amend 14 CCR § 895. Abbreviations Applicable Throughout Chapter.

The following abbreviations are applicable to throughout this chapter:

[OPTIONAL AMENDMENT 1 ACD *Angular Canopy Density**]***

B & M Baseline and*****

*****cm** Centimeter(s)

CMZ Channel Migration Zone

dbh The average diameter.*****

*****PTHP** means*****

QMD Quadratic Mean Diameter

R Range*****

*****WLPZ** Watercourse and Lake Protection Zone

WTL Watercourse Transition Line****

Note: Authority cited: Sections 4551, 4551.5 and 21082, Public Resources Code. Reference: Sections 4511, 4512, 4513, 4521.3, 4522, 4522.5, 4523-4525, 4525.3, 4525.5, 4525.7, 4526, 4526.5, 4527, 4527.5, 4528, 4551, 4551.5, 4552, 4582 and 21080.5, Public Resources Code.

Amend 14 CCR § 895.1. Definitions.

Alternate Prescription *****

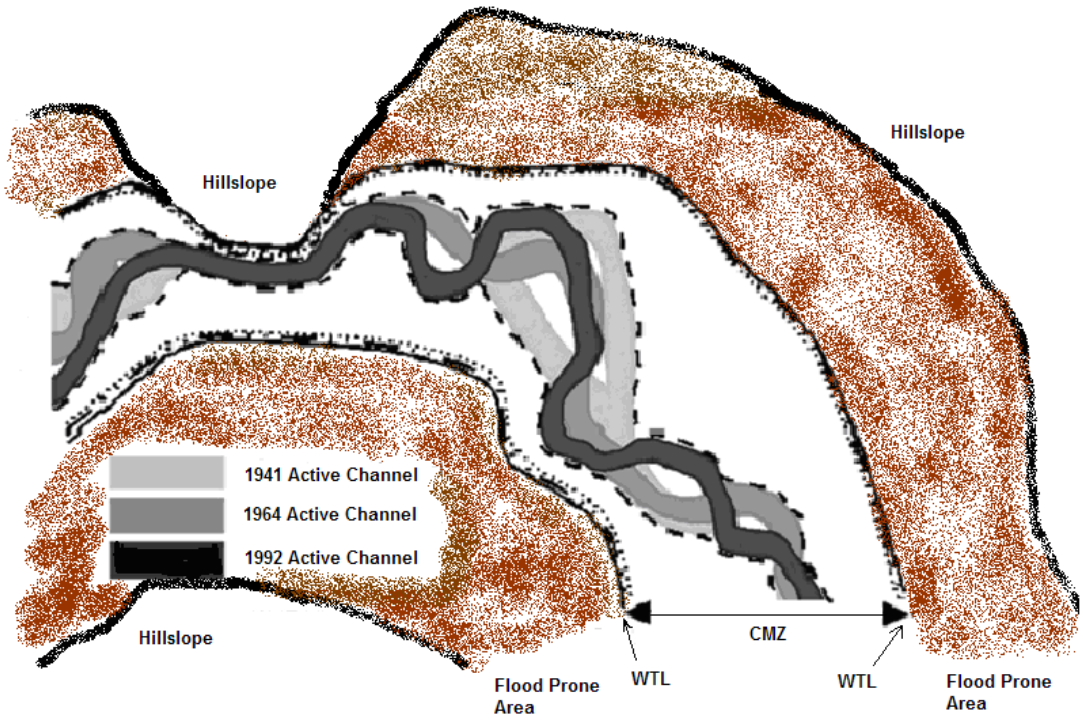
*****[***OPTIONAL AMENDMENT 2 Angular Canopy Density*** *means the portion of the sky occupied by canopy along the sun's path between 10 a.m. and 2 p.m. (pacific standard time) in mid to late-summer (i.e., July and August). ACD is measured in the thalweg of the watercourse channel, or along the streambank if wading is not possible. Several different types of instruments can be used to measure ACD including the spherical densiometer, but the Solar Pathfinder is preferred. ACD is determined by counting the numbers of squares or fractions of squares displayed when using a canopy measuring device and converting the number to a percentage.***]**

Approved and legally permitted structure means***

*****Canopy** means*****

*****Channel Migration Zone** means the area on both sides of a watercourse's active channel where the main channel of a watercourse shifts position on its floodplain laterally through avulsion or lateral erosion. This results in a potential loss of riparian habitat and the beneficial functions of the riparian zone adjacent to the watercourse for a period of approximately 80 years, except as modified by a permanent levee or dike . CMZs tend to be more common where the valley floor is more than four (4) times the width of the channel zone. (See Figure 1).

Figure 1. Plan view diagram of a simple Channel Migration Zone designation.



Channel zone means that area ~~that includes a watercourse's channel at bankfull stage and a watercourse's floodplain, encompassing the area~~ located between the watercourse transition lines.

Coastal Commission Special treatment area means*****

*****Confidential Archaeological Letter** means*****

*****__**Confined Channel** means a watercourse with an incised channel that does not shift position on a floodplain, the channel has no contiguous flat, flood prone areas, and the width of the valley floor is less than 2 times the channel width at bankfull stage.__

Countable Tree means *****

*****__**Feasible means**__*****

~~*****__**Fifty-Year Flood Flow** means that magnitude of peak flow which one would expect to be equaled or exceeded, on the average, once every 50 years. This flow shall be estimated by empirical relationships between precipitation and watershed characteristics and run off and then may be modified by direct channel cross-section measurements and local experience.~~

Fill means*****

*****__**Fire Protection Zone** means*****__

*****__**Flood Flow** means that magnitude of peak flow that would, on the average, be equaled or exceeded once every specified period of years (e.g. once every 10 year, 50 years, 100 years).__ This flow shall be estimated by flood flow measurement records and relationships by empirical relationships between precipitation, watershed characteristics, and runoff, and may be modified by direct channel cross-section measurements and local experience.

__**Flood Prone Area** means an area contiguous to a watercourse channel that is periodically flooded by overbank flow. Indicators of flood prone areas may include diverse fluvial landforms, such as overflow side channels or oxbow lakes, hydric vegetation, and deposits of fine-grained sediment between duff layers. The outer boundary of the flood prone area may be determined by field indicators such as the location where valley slope begins (i.e., where there is a substantial percent change in slope, including terraces, the toes of the alluvial fan, etc.), a distinct change in soil/plant characteristics, and the absence of silt lines on trees and residual evidence of floatable debris caught in brush or trees. Where the outer boundary of the flood prone area cannot be clearly determined using the field indicators above; it shall be__

determined based on the 20-year flood flow, or the elevation equivalent to twice the distance between a thalweg riffle crest and the depth of the channel at bankfull stage.

Fuel break means*****

*****Lake Tahoe region** means*****

Lake Transition Line means that line closest to the lake where riparian vegetation is permanently established.

*****Landing** means*****

*****Project** means*****

*****Properly Functioning Salmonid Habitat** means the beneficial functions of the riparian zone are suitable for all lifecycle stages of listed anadromous salmonid species that would be expected to occur in specific geomorphic conditions considering spatial and temporal variability.

Public Fire Agency means*****

*****Riparian** means*****

*****Riparian-Associated Species** means those plants, invertebrates, fish, or terrestrial wildlife that require the riparian areas during at least one critical life stage.

Rip Rap means*****

*****Saturated soil conditions** means that ~~site conditions are sufficiently wet that timber operations displace soils in yarding or mechanical site preparation areas or displace road and landing surface materials in amounts sufficient to cause a turbidity increase in drainage facilities that discharge into Class I, II, III, or IV waters, or in downstream Class I, II, III, or IV waters that is visible or would violate applicable water quality requirements.~~

~~In yarding and site preparation areas, this condition may be evidenced by: a) reduced traction by equipment as indicated by spinning or churning of wheels or tracks in excess of normal performance, b) inadequate traction without blading wet soil, c) soil displacement in amounts that cause visible increase in turbidity of the downstream waters in a receiving Class I,~~

~~II, III, or IV waters, or in amounts sufficient to cause a turbidity increase in drainage facilities that discharge into Class I, II, III, or IV waters, or d) creation of ruts greater than would be normal following a light rainfall.~~

~~On logging roads and landing surfaces, this condition may be evidenced by a) reduced traction by equipment as indicated by spinning or churning of wheels or tracks in excess of normal performance, b) inadequate traction without blading wet soil, c) soil displacement in amounts that cause visible increase in turbidity of the downstream waters in receiving Class I, II, III, or IV waters, or in amounts sufficient to cause a turbidity increase in drainage facilities that discharge into Class I, II, III, or IV waters, d) pumping of road surface materials by traffic, or e) creation of ruts greater than would be created by traffic following normal road watering, which transports surface material to a drainage facility that discharges directly into a watercourse. The Soils or road and landing surfaces that are hard frozen are excluded from this definition.~~all soil pore spaces are filled with water and runoff is likely to occur. Indicators of saturated soil conditions may include, but are not limited to: (1) areas of ponded water, (2) pumping of fines from the soil or road surfacing material during timber operations, (3) loss of bearing strength resulting in the deflection of soil or road surfaces under a load, such as the creation of wheel ruts, (4) spinning or churning of wheels or tracks that produces a wet slurry, or (5) inadequate traction without blading wet soil or surfacing materials.

Scattered Parcels means*****

*****__Spotted Owl Resource Management Plan__ means*****

*****__Stable operating surface__ means ~~that throughout the period of use, the operating surface of a logging road or landing does not either (1) generate waterborne sediment in amounts sufficient to cause a turbidity increase in downstream Class I, II, III, or IV waters, or in amounts sufficient to cause a turbidity increase in drainage facilities that discharge into Class I, II, III, or IV waters or, that is visible or would violate applicable water quality requirements; or (2)~~

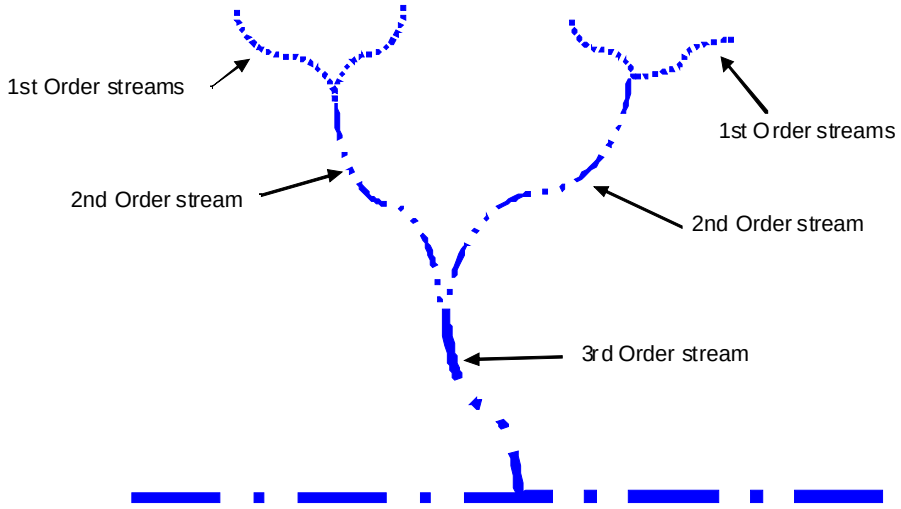
~~channel water for more than 50 feet that is discharged into Class I, II, III, or IV waters.~~a road or landing surface that can support vehicular traffic and has a structurally sound road base appropriate for the type, intensity and timing of intended use. ***[OPTIONAL AMENDMENT 3 (adds phrase)*** ~~.~~ *and routes water off of the surface sufficiently to avoid large ponding of water.]*

Stand Vigor is*****

*****Stream** see*****

*****Stream Order** means a classification method based on the branching pattern of watercourses in a watershed. As watercourses of equal order meet, they combine to form a watercourse of the next higher order. A first order watercourse is defined as the smallest unbranched watercourse in the headwaters of a watershed (usually an ephemeral channel). When two first order watercourse channels join, they form a second order watercourse. Similarly, when two second order watercourses join, they form a third order watercourse (See Figure 2).

Figure 2: Plan view of stream order delineation



Stressing Storm means a storm that yields at least a ten year flood flow. ****

Substantial adverse change means*****

*****Watercourse Bank** means*****

~~*****Watercourse or Lake Transition Line~~

~~(a) for a watercourse with an unconfined channel (a channel with a valley to width ratio at bankfull stage of 4 or greater) means that line defined by the landward margin of the most active portion of the channel zone area readily identified in the field by riverine hardwood and conifer trees at least twenty five years in age at breast height.~~

~~(b) for a watercourse with a confined channel means that line that is the outer boundary of a watercourse's 20-year return interval flood event floodplain. The outer boundary corresponds to an elevation equivalent to twice the maximum depth of the adjacent riffle at bankfull stage. The bankfull stage elevation shall be determined by field indicators and may be verified by drainage area/bankfull discharge relationships.~~

~~(c) For a lake, it is that line closest to the lake where riparian vegetation is permanently established.~~

Watercourse Transition Line

(a) for a watercourse without CMZ, means the line defined by one or more the following features: 1) a change of vegetation from bare surfaces or annual water tolerant species to perennial water tolerant or upland species at least 25 years in age at breast height, 2) physical indicators of scour such as undercut banks moss lines on rocks, the top of exposed roots along the channels, and 3) a change in the size distribution of surface sediments from gravel to fine sand (See Figure 3 and 3A).

(b) for a watercourse where there is a CMZ, means that line that is defined by the outside edge of the CMZ.

Figure 3. Indicators for determining a Watercourse Transition Line

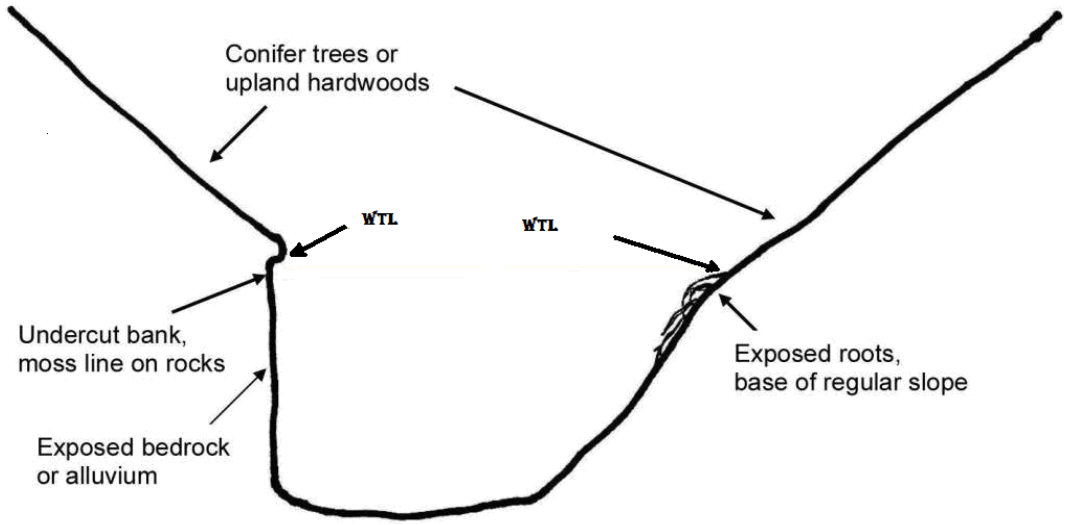
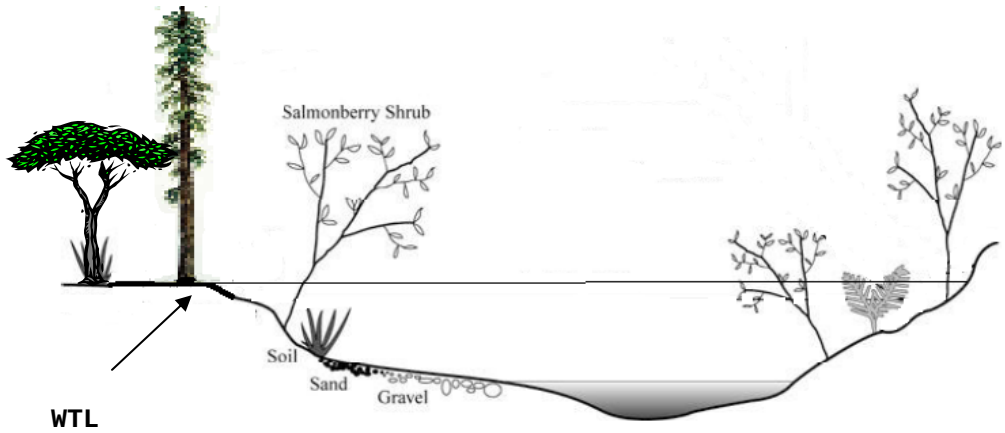


Figure 3A. Indicators for determining a Watercourse Transition Line



Watershed with Coho Salmon means *****

*****__**Watersheds in the coho salmon ESU**__ means any planning watershed(s) in the coho salmon (Oncorhynchus kisutch) Evolutionary Significant Unit (ESU), as defined in 70 Federal Register 37160, dated June 28, 2005, where populations of any anadromous salmonids (including central California coast coho, southern Oregon/northern California coast coho, northern California steelhead, central California coast steehead, and central California coast chinook) that are listed as threatened, endangered, or candidate under the State or Federal Endangered Species Acts are currently present or can be restored. Official maps of coho salmon ESU are found at http://swr.nmfs.noaa.gov/recovery/Salm_Steel.htm.

Watersheds with __listed anadromous salmonids__ ~~threatened or impaired values~~ means any planning watershed where populations of anadromous salmonids that are listed as ~~T~~threatened, endangered, or candidate under the State or Federal Endangered Species Acts ~~with their implementing regulations~~, are currently present or can be restored.

Wet Meadow and other wet areas means*****

*****__**Winter Period**__ means the period between November 15 to April 1, except 1) as noted under special County Rules at 14 CCR, Article 13 § 925.1, 926.18, 927.1, and 965.5; and 2) from October 15 to May 1 in watersheds with listed anadromous salmonids pursuant to 14 CCR § 916.9 [936.9, 956.9], subsection (l).

Woody debris means*****

*****~~The amendments to 14 CCR § 895.1 adopted on March 15, 2000 and April 4, 2000, which became effective July 1, 2000, shall expire on December 31, 2009~~.

Note: Authority cited: Sections 4551, 4551.5, 4553, 4561, 4561.5, 4561.6, 4562, 4562.5, 4562.7 and 4591.1, Public Resources Code. Reference: Sections 4512, 4513, 4526, 4551, 4551.5, 4561, 4561.6, 4562, 4562.5, 4562.7, 4583.2, 4591.1, 21001(f), 21080.5, 21083.2 and 21084.1, Public Resources Code; CEQA Guidelines Appendix K (printed following Section 15387 of Title 14 Cal. Code of Regulations), and Laupheimer v. State(1988) 200 Cal.App.3d 440; 246 Cal.Rptr. 82.

Amend 14 CCR § 898. Feasibility Alternatives.

After considering the rules of the Board and any mitigation measures proposed in the plan, the RPF shall indicate whether the operation would have any significant adverse impact on the environment. On TPZ lands, the harvesting per se of trees shall not be presumed to have a significant adverse impact on the environment. If the RPF indicates that significant adverse impacts will occur, the RPF shall explain in the plan why any alternatives or additional mitigation measures that would significantly reduce the impact are not feasible.

Cumulative impacts shall be assessed based upon the methodology described in Board Technical Rule Addendum Number 2, Forest Practice Cumulative Impacts Assessment Process and shall be guided by standards of practicality and reasonableness. The RPF's and plan submitter's duties under this section shall be limited to closely related past, present and reasonably foreseeable probable future projects within the same ownership and to matters of public record. The Director shall supplement the information provided by the RPF and the plan submitter when necessary to ~~i~~ensure that all relevant information is considered.

~~When assessing cumulative impacts of a proposed project on any portion of a waterbody that is located within or downstream of the proposed timber operation and that is listed as water quality limited under Section 303(d) of the Federal Clean Water Act, the RPF shall assess the degree to which the proposed operations would result in impacts that may combine with existing listed stressors to impair a waterbody's beneficial uses, thereby causing a significant adverse effect on the environment. The plan preparer shall provide feasible mitigation measures to reduce any such impacts from the plan to a level of insignificance, and may provide measures, insofar as feasible, to help attain water quality standards in the listed portion of the waterbody.~~

~~The Director's evaluation of such impacts and mitigation measures will be done in consultation with the appropriate RWQCB~~.

~~(a) The amendments to 14 CCR § 898 that became effective July 1, 2000 shall expire on December 31, 2009.~~

Note: Authority cited: Sections 4551 and 4553, Public Resources Code. Reference: Sections 4512, 4513, 4551.5 and 4582.75, Public Resources Code; and Laupheimer v.State (1988) 200 Cal.App.3d 440; 246 Cal.Rptr. 82.

Amend 14 CCR § 914.8. [934.8, 954.8] Tractor Road Watercourse Crossing.

Watercourse crossing facilities on tractor roads shall be planned, constructed, maintained, and removed according to the following standards:

(a) The number of crossings shall be kept to a minimum. Existing crossing locations shall be used wherever feasible.

(b) A prepared watercourse crossing using a structure such as a bridge, culvert, or temporary log culvert shall be used to protect the watercourse from siltation where tractor roads cross a watercourse in which water may be present during the life of the crossing.

(c) Crossing facilities on watercourses that support fish shall allow for unrestricted passage of all life stages of fish that may be present, and for unrestricted passage of water. Such crossing facilities shall be fully described in sufficient clarity and detail to allow evaluation by the review team and the public, provide direction to the LTO for implementation, and provide enforceable standards for the inspector.

(d) Watercourse crossing facilities not constructed to permanent crossing standards on tractor roads shall be removed before the beginning of the winter period. If a watercourse crossing is to be removed, it shall be removed in accordance with 14 CCR § 923.3 [943.3, 963.3], subsection (d) ~~[943.3(d), 963.3(d)]~~.

(e) If the watercourse crossing involves a culvert, the minimum diameter shall be stated in the THP and the culvert shall be of a sufficient length to extend beyond the fill material.

(f) Consistent with the protection of water quality, exceptions may be provided through the Fish and Game Code and shall be indicated in the plan.

~~**(g)** The amendments to 14 CCR § 914.8 [934.8, 954.8] that became effective July 1, 2000 shall expire on December 31, 2009.~~

Note: Authority cited: Sections 4551, 4551.5 and 4553, Public Resources Code. Reference: Sections 4512, 4513, 4527, 4562.5, 4562.7 and 4582, Public Resources Code.

Amend 14 CCR § 916. [936, 956] Intent of Watercourse and Lake Protection.

The purpose of this article is to ensure that timber operations do not potentially cause significant adverse site-specific and cumulative impacts to the beneficial uses of water, native aquatic and riparian-associated species, and the beneficial functions of riparian zones ~~are protected from potentially significant adverse site-specific and cumulative impacts associated with timber operations~~ , or threaten to cause violation of any applicable legal requirements. This article also provides protection measures for application in watersheds with listed anadromous salmonids and watersheds listed as water quality limited under Section 303(d) of the Federal Clean Water Act.

It is the intent of the Board to restore, enhance, and maintain the productivity of timberlands while providing ~~equal~~ appropriate levels of consideration for the quality and beneficial uses of water relative to that productivity.

Further, it is the intent of the Board to clarify and assign responsibility for recognition of potential and existing impacts of timber operations on watercourses and lakes, native aquatic and riparian-associated species, and the beneficial functions of riparian zones and to ensure ~~adoption of~~ all plans contain feasible measures to effectively achieve compliance with this article. Further, it is the intent of the Board that the evaluations that are made, and the measures that are taken or prescribed, be documented in a manner that clearly and accurately represents those existing conditions and those measures. "Evaluations made" pertain to the assessment of the conditions of the physical form, water quality, and biological characteristics of watercourses and lakes, including cumulative impacts affecting the beneficial uses of water on both the area of planned logging operations and in the Watershed Assessment Area (WAA). "Measures taken" pertain to the procedures used or prescribed for the restoration, enhancement, and maintenance of the beneficial uses of water.

All provisions of this article shall be applied in a manner, which complies with the following:

(a) During and following timber operations, the beneficial uses of water, native aquatic and riparian-associated species, and the beneficial functions of riparian zones shall be maintained where they are in good condition~~,~~ and protected where they are threatened~~,~~. ~~and~~ ~~i~~Insofar as feasible, native aquatic and riparian-associated species and the beneficial functions of riparian zones shall be restored where they are impaired.

(b) Maintenance, p~~P~~rotection, and restoration of the quality and beneficial uses of water during the planning, review, and conduct of timber operations shall comply with all applicable legal requirements including those set forth in any applicable water quality control plan or water quality control policy adopted or approved by the State Water Resources Control Board, as these are typically interpreted and applied by the affected regional water quality control board. ~~At a minimum, the LTO shall not do either of the following during timber operations:~~

~~**(1)** Place, discharge, or dispose of or deposit in such a manner as to permit to pass into the waters of the state, any substances or materials, including, but not limited to, soil, silt, bark, slash, sawdust, or petroleum, in quantities deleterious to fish, wildlife, beneficial functions of riparian zones, or the quality and beneficial uses of water;~~

~~**(2)**~~**(1)** Remove water, trees or large woody debris from a watercourse or lake, the adjacent riparian area, or the adjacent flood plain in quantities deleterious to fish, wildlife, beneficial functions of riparian zones**,** or the quality and beneficial uses of water.

(c) Protecting and restoring native aquatic and riparian-associated species, the beneficial functions of riparian zones, and the quality and beneficial uses of water shall be given equal consideration as a management objective within any prescribed WLPZ and within any ELZ or EEZ designated for watercourse or lake protection and any other location where timber operations may affect riparian zones or the quality and beneficial uses of water.

(d) The measures set forth in this Section are meant to enforce the public's historical and legal interest in protection for wildlife, fish, and water quality and are to be used to guide timberland owners in meeting their legal responsibilities to protect public trust resources.

~~**(e)** The amendments to 14 CCR § 916 [936, 956] that became effective July 1, 2000 shall expire on December 31, 2009.~~

Note: Authority cited: Sections 4551, 4562.7 and 21000(g), Public Resources Code. Reference: Sections 4512, 4513, 4551.5, 4552, 4562.5, 4562.7, 21001(b), (f), 21002 and 21002.1, Public Resources Code; and Sections 100, 1243, 1243.5, 13001, 13050(f), 13146 and 13147, Water Code.

Amend 14 CCR § 916.2. [936.2, 956.2] Protection of the Beneficial Uses of Water and Riparian Functions.

(a) The measures used to protect each watercourse and lake in a logging area shall be determined by the presence and condition of the following values:

(1) The existing and restorable quality and beneficial uses of water as specified by the applicable water quality control plan and as further identified and refined during preparation and review of the plan.

(2) The existing and restorable uses of water for fisheries as identified by the DFG or as further identified and refined during preparation and review of the plan.

(3) ~~Riparian habitat~~ The beneficial functions of the riparian zone that provides for the biological needs of native aquatic and riparian-associated species as specified in 14 CCR § 916.4~~(b)~~ [936.4~~(b)~~, 956.4~~(b)~~] subsection (b) and 14CCR § 916.9 [936.9, 956.9] when the plan is in a planning watershed with listed anadromous salmonids.

(4) Sensitive conditions near watercourses and lakes as specified in 14 CCR § 916.4~~(a)~~ [936.4~~(a)~~, 956.4~~(a)~~] subsection (a).

The maintenance, protection, and restoration of ~~T~~these values shall be ~~protected from potentially significant adverse impacts from timber operations and restored to good condition, where needed,~~ achieved through a combination of the rules and plan-specific mitigation. The RPF shall propose, and the Director may require, adequate protection of overflow and

changeable channels which are not contained within the channel zone.

(b) The State's waters are grouped into four classes based on key beneficial uses. These classifications shall be used to determine the appropriate ~~minimump~~protection measures to be applied during the conduct of timber operations. The basis for classification (characteristics and key beneficial uses) are set forth in 14 CCR § 916.5 [936.5, 956.5], Table 1 and the range of ~~minimum~~ appropriate protective measures applicable to each class are contained in 14 CCR §§ 916.3 [936.3, 956.3], 916.4 [936.4, 956.4], and 916.5 [936.5, 956.5] and 916.9 [936.9, 956.9] when the plan is in a planning watershed with listed anadromous salmonids.

(c) When the protective measures contained in 14 CCR §§ 916.5 [936.5, 956.5] and 916.9 [936.9, 956.9] when the plan is in a planning watershed with listed anadromous salmonids are not adequate to provide for maintenance, protection or restoration ~~to~~ of beneficial uses, ~~feasible~~ additional measures as are necessary and sufficient to achieve these goals shall be developed by the RPF or proposed by the Director under the provisions of 14 CCR § 916.6 [936.6, 956.6], Alternative Watercourse and Lake Protection, and incorporated in the plan when approved by the Director. Additional measures taken to contribute to restoration of beneficial functions of riparian zones are those which are feasible and commensurate to the action in the plan.

~~**(d)** The amendments to 14 CCR § 916.2 [936.2, 956.2] that became effective July 1, 2000 shall expire on December 31, 2009.~~

Note: Authority cited: Sections 4551, 4562.7 and 21000(g), Public Resources Code. Reference: Sections 751, 4512, 4513, 4551.5, 21000(g), 21001(b) and 21002.1, Public Resources Code; Sections 100, 1243, 13050(f), Water Code; and Sections 1600 and 5650(c), Fish and Game Code.

Amend 14 CCR § 916.5 [936.5, 956.5]. Procedure for Determining Watercourse and Lake Protection Zone (WLPZ) Widths and Protective Measures.

The following procedure for determining WLPZ widths and protective measures shall be followed:*****

*******(e)** The letter designations shown in the "Protective Measures and Widths" column in Table I correspond to the following:

"A" WLPZ shall be clearly identified on the ground by the RPF who prepared the plan, or supervised designee, with paint, flagging, or other suitable means prior to the preharvest inspection. For nonindustrial timber management plans, sample identification of the WLPZ prior to the preharvest inspection may be allowed. The sample shall be based upon a field examination and be consistent with the applicable provisions of 14 CCR §§ 916.4 [936.4, 956.4] and 916.5 [936.5, 956.5], representing the range of conditions found within the WLPZ. The Director shall determine if the sample identification is adequate for plan evaluation during the preharvest inspection. If sample identification is allowed, the remaining WLPZ shall be identified by an RPF or supervised designee prior to the start of timber operations within or adjacent to the WLPZ. The RPF shall notify the Department when the WLPZ has been identified.

"**B**" WLPZ shall be clearly identified on the ground by an RPF or supervised designee, with paint, flagging, or other suitable means, prior to the start of timber operations. ~~In~~ watersheds with ~~threatened or impaired values~~ listed anadromous salmonids, on the ground identification of the WLPZ shall be completed prior to the preharvest inspection. For all nonindustrial timber management plans, sample identification of the WLPZ prior to the preharvest inspection may be allowed. *****

"C" In site-specific cases, the RPF may provide in the plan, or the Director may require, that the WLPZ be clearly identified on the ground with flagging or by other suitable means prior to the start of timber operations.

"D" To ensure retention of shade canopy filter strip properties of the WLPZ and the maintenance of a multi-storied stand for protection of values described in 14 CCR § 916.4(b) [936.4(b), 956.4(b)], residual or harvest trees shall be marked, including a base mark below the cut-line within the WLPZ by the RPF, or supervised designee. Outside of watersheds with ~~threatened or impaired values~~ listed anadromous salmonids, sample marking prior to the preharvest inspection is satisfactory in those cases where the Director determines it is adequate for plan evaluation. *****

"E" To ensure retention of shade canopy filter strip properties of the WLPZ and the maintenance of a multi-storied stand for protection of values described in 14 CCR § 916.4(b) [936.4(b), 956.4(b)], residual or harvest trees shall be marked, including a base mark below the cut line, within the WLPZ by the RPF or supervised designee. Outside of watersheds with ~~threatened or impaired values~~ listed anadromous salmonids, tree marking shall be done prior to timber falling operations. In watersheds with ~~threatened or impaired values~~ listed anadromous salmonids, trees shall be marked in advance of the preharvest inspection. *****

Note: Authority cited: Sections 4551, 4562.7 and 21000(g), Public Resources Code. Reference: Sections 4513, 4551.5 and 21001(f), Public Resources Code; Sections 100, 13000 and 13050(f), Water Code; and 33 USC Section 1288(b)(2)(F).

Amend 14 CCR § 916.9 [936.9, 956.9]. Protection and Restoration of the Beneficial Functions of the Riparian Zone in Watersheds with Listed~~Threatened or Impaired Values~~ Anadromous Salmonids.

Geographic scope - In addition to all other district Forest Practice Rules, the following requirements shall apply in any ~~planning~~ watershed with listed ~~threatened or impaired values~~ anadromous salmonids. When specified in this section, rules pertaining to watersheds in the coho calmon ESU supersede requirements for watersheds with listed anadromous salmonids.

The provisions of 14 CCR §§ 916.9 [936.9, 956.9], subsections (k)-(q), 923.3 [943, 963] and 923.9 [943.9, 963.9] also apply to planning watersheds immediately upstream of any watershed with listed anadromous salmonids for purposes of reducing significant adverse impacts from transported fine sediment. Projects in other watersheds further upstream that flow into watersheds with listed anadromous salmonids, not otherwise designated above, may be subject to these provisions based on an assessment consistent with cumulative impacts requirements in 14 CCR § 898 and Technical Rule Addendum No. 2, Cumulative Impacts Assessment.

(a) ~~GOAL~~Goal - Every timber operation shall be planned and conducted to prevent ~~deleterious~~ ~~interference~~significant adverse impacts to ~~with the watershed conditions that primarily limit~~ the ~~values set forth in 14 CCR 916.2 [936.2, 956.2](a)~~ the primary limiting factors that affect listed anadromous salmonid species in a planning watershed ~~-~~(e.g., sediment load increase where sediment is a primary limiting factor; thermal load increase where water temperature is a primary limiting factor; loss of instream large woody debris or recruitment potential where lack of this value is a primary limiting factor; substantial increase in peak flows or large flood frequency where peak flows or large flood frequency are primary limiting factors). To achieve this goal, every timber operation shall be planned and conducted to meet the following objectives where they affect a primary limiting factor:

(1) Comply with the terms of a Total Maximum Daily Load (TMDL) that has been adopted to address primary limiting factors that may be affected by timber operations. ~~if a TMDL has been adopted,, or not result in any measurable sediment load increase to a watercourse or lake.~~

(2) Not result in any significant sediment load increase to a watercourse system or lake.

~~(2)~~**(3)** Not result in any ~~measurable~~ significant decrease in the stability of a watercourse channel or of a watercourse or lake bank.

~~(3)~~**(4)** Not result in any ~~measurable~~ significant blockage of any aquatic migratory routes for anadromous salmonids or listed species.

~~(4)~~**(5)** Not result in any ~~measurable~~ significant streamflow reductions during critical low water periods except as part of an approved water drafting plan pursuant to 14 CCR § 916.9~~(r)~~ [936.9~~(r)~~, 956.9~~(r)~~], subsection (r).

~~(5)~~**(6)** Consistent with the requirements of 14 CCR § 916.9~~(i),~~ [936.9,956.9], subsections (f), (g), (h) and (v), ~~14 CCR § 936.9(i), or 14 CCR § 956.9(i),~~ protect, maintain, and restore trees (especially conifers), snags, or downed large woody debris that currently, or may in the

foreseeable future, provide large woody debris recruitment needed for instream habitat structure and fluvial geomorphic functions.

~~(6)~~**(7)** Consistent with the requirements of 14 CCR § 916.9~~(g)~~ [936.9, 956.9], subsections (f), (g), (h) and (v), ~~14 CCR § 936.9 (g), or 14 CCR § 956.9(g),~~ protect, maintain, and restore the quality and quantity of vegetative canopy needed to:

(A) provide shade to the watercourse or lake to maintain daily and seasonal water temperatures within the preferred range for anadromous salmonids or listed species where they are present or could be restored; and

(B) ~~minimize daily and seasonal temperature fluctuations~~provide a deciduous vegetation component to the riparian zone for aquatic nutrient inputs (~~C) maintain daily and seasonal water temperatures within the preferred range for anadromous salmonids or listed species where they are present or could be restored, and (D) provide hiding cover and a food base where needed~~.

~~(7)~~**(8)** Result in no ~~substantial~~ significant increases in peak flows or large flood frequency.

(b) Pre-plan adverse cumulative watershed effects - Pre-plan adverse cumulative watershed effects on the populations and habitat of anadromous salmonids shall be considered. The plan shall specifically acknowledge or refute that such effects exist. ~~Where appropriate~~When the proposed timber operations, in combination with any identified pre-plan watershed effects, will add to significantly adverse existing cumulative watershed effects, the plan shall set forth measures to effectively reduce such effects.

(c) Objectives for timber operations or silvicultural prescriptions in WLPZs - Any timber operation or silvicultural prescription within ~~150 feet of any Class I watercourse or lake transition line or 100 feet of any Class II~~ any watercourse or lake protection zone ~~transition line~~ shall have protection, maintenance, or restoration of the beneficial uses of water, and properly

functioning salmonid habitat and ~~or the for populations and habitat of anadromous salmonids or~~ listed aquatic or riparian-associated species as significant objectives. Specific objectives are described below.

(1) Core Zone: The primary objective for this zone is streamside bank protection to promote bank stability, wood recruitment by bank erosion, and canopy retention. Timber operations are generally excluded from this zone and limited to actions which meet the objectives stated above or improve salmonid habitat consistent with 14 CCR § 916.9 [936.9, 956.9] subsections (a) and (c).

(2) Inner Zone: The primary objective for this zone is to develop a pool of trees for large wood recruitment, to provide additional shading, to develop vertical structural diversity, and to provide a variety of species (including hardwoods) for nutrient input. This is accomplished through the establishment of high basal area and canopy retention by retaining or more rapidly growing a sufficient number of large trees. Additional specific objectives include locating large trees retained for wood recruitment nearer to the Core Zone and maintaining or improving salmonid habitat on flood prone areas and CMZs when present. Timber operations within WLPZs are limited to those actions which meet the objectives stated above or to improve salmonid habitat consistent with 14 CCR § 916.9 [936.9, 956.9] subsection (a) and (c).

(3) Outer Zone: The primary objective for this zone, when needed, is to buffer the Inner and Core Zones and to provide the following functions: 1) wind resistance where windthrow is common or likely to occur, 2) additional wood recruitment, 3) microclimate control in the Inner or Core Zones for purposes other than limiting water temperature change, 4) habitat for terrestrial wildlife species that depend on riparian areas, and 5) an additional sediment filter on steeper slopes with high or moderate erosion hazard rating when tractor operations are proposed.

(4) Class II large watercourses (Class II-L): The primary objective is to maintain,

protect or restore the values and functions of Class II-L type watercourses described below. Class II-L type watercourses can supply water and nutrients to a Class I watercourse during the month of July during an average hydrologic year, can supply coarse and fine sediment to the Class I channel, and may be able to supply wood of a size that would function as large wood for the Class I watercourse. Recruitment, delivery and retention of large wood in Class II- L type watercourses is also critical, as large wood increases sediment storage and decreases the rate of sediment transport to fish-bearing Class I watercourses. Other objectives stated in 14 CCR § 916.9 [936.9, 956.9] subsections (c) (1) and (2) above for the Core Zone and Inner Zone are also desired objectives for Class II-L type watercourses.

(5) WLPZs in High or Very High Fire Hazard Severity Zones: An objective in WLPZs having conditions where catastrophic, stand replacing wildfire will result in significant adverse effects to salmonid species or riparian habitat is to create fire resilient forests that can sustain wildfire, have reduced fire intensities, and retain functional habitat following a wildfire. In areas mapped pursuant to PRC § 4203 as High or Very High Fire Hazard Severity Zones, or where other fire behavior modeling information indicates the potential for severe fire behavior and likelihood of stand replacing fires, objectives include fuel hazard reduction activities that reduce fire hazards and the potential for extreme fire behavior. Fuel reduction activities would be designed to reduce fire behavior to sustainable levels, including, but not limited to, maximum four-foot flames lengths under average severe fire conditions, through a combination of activities that eliminate the vertical and horizontal continuity among all vegetative fuels layer (surface fuels, ladder fuels and crown fuels). Such treatment would result in reducing fire rate of spread, duration and intensity, and fuel ignitability. Preferred actions taken to reduce fire hazards in WLPZs are those which focus on reducing surface and ladder fuel hazards while simultaneously goals and objectives of 14 CCR § 916.9 [936.9, 956.9] subsections (a) and (c).

(6) A primary objective for all WLPZs is to implement practices to maintain,

protect and contribute to restoration of properly functioning salmonid habitat and repair conditions detrimental to the species or species habitat where: (i) it is demonstrated that adequate bank stability, shading, and wood recruitment will be provided, and (ii) practice(s) proposed are known to address a primary limit on salmonid populations in that portion of a watershed. Practices include, but are not limited to, thinning for increased conifer growth, felling or yarding trees for wood placement in the channel, restoration of conifer deficient areas, management to promote a mix of conifers and hardwoods, abandonment and upgrading of non-functioning or high risk roads, watercourse crossings, tractor roads, and landings.

~~Additionally, for evenaged regeneration methods and rehabilitation with the same effects as a clearcut that are adjacent to a WLPZ, a special operating zone shall retain understory and mid-canopy conifers and hardwoods. These trees shall be protected during falling, yarding and site preparation to the extent feasible. If trees that are retained within this zone are knocked down during operations, that portion of the trees that is greater than 6" in diameter shall remain within the zone as Large Woody Debris. The zone shall be 25 feet above Class I WLPZs with slopes 0-30% and 50 feet above Class I WLPZs with slopes > 30%.~~

(d) Measures to Offset Adverse Watershed Effects -

(1) The plan shall fully describe: (A) the type and location of each measure needed to fully offset sediment loading, thermal loading, and potential significant adverse watershed effects from the proposed timber operations, and (B) the person(s) responsible for the implementation of each measure, if other than the timber operator.

(2) In proposing, reviewing, and approving such measures, preference shall be given to the following: (A) measures that are both onsite (i.e., on or near the plan area) and in-kind (i.e., erosion control measures where sediment is the problem), and (B) sites that are located to maximize the benefits to the impacted portion of a watercourse or lake. Out-of-kind measures (i.e., improving shade where sediment is the problem) shall not be approved as meeting the requirements of this subsection.

(e) Channel zone requirements -

(1) There shall be no timber operations within the channel zone with the following exceptions:

(A) ~~timber harvesting that is~~ Actions directed to improve salmonid habitat

~~through the limited use of the selection or commercial thinning silvicultural methods~~ with review and comment by DFG.

(B) ~~timber harvesting~~ Actions necessary for the construction or reconstruction of approved watercourse crossings.

(C) ~~timber harvesting~~ Actions necessary for the protection of public health~~,~~ ~~and~~ safety and general welfare. This includes actions necessary to protect infrastructure facilities including, but not limited to, roads, bridges, powerlines, utilities. water drafting structures, homes, and other legally permitted structures.

(D) Actions to allow for full suspension cable yarding when necessary to transport logs through the channel zone.

(E) Timber harvesting in Class III watercourses ~~where exclusion of timber operations is not for protection of listed salmonids.~~consistent with 14 CCR § 916.9 [936.9,956.9] subsection (h)(7).

(F) Actions reviewed by the RWQCB which seek to correct or remediate adverse impacts to the beneficial uses of water.

(2) In all instances where trees are proposed to be felled within the channel zone, a base mark shall be placed below the cut line of the harvest trees within the zone. Such marking shall be completed by the RPF, or a supervised designee, that prepared the plan prior to the preharvest inspection.

(f) Class I watercourses -

(1) For Class I watercourses, based on biological characteristics, any plan involving timber operations within the WLPZ shall contain the following information:

(A) Clear and enforceable specifications of timber operations within the Class I WLPZ, including a description of how any disturbance, or log or tree cutting and removal shall be carried out to conform with 14 CCR §§ 916.2 [936.2, 956.2], subsection (a) and 916.9 [936.9, 956.9], subsection (a).

(B) A description of all existing permanent logging road watercourse crossings.

(C) Clear and enforceable specifications describing how these crossings are to be modified, used, and treated to minimize risks, giving special attention to allowing fish to pass both upstream and downstream during all life stages.

(D) Clear and enforceable specifications for construction and operation of any new crossing(s) of a Class I watercourse to prevent direct harm, habitat degradation, water velocity increase, hindrance of fish passage, or other potential impairment of beneficial uses of water.

(E) Documentation of how proposed harvesting in the WLPZ contributes to the objectives of each zone stated in 14 CCR § 916.9 [936.9,956.9], subsection (c) and other goals in 14 CCR § 916.9 [936.9,956.9], subsection (a) (1)-(8). Documentation shall include the examinations, analysis, and other requirements listed in 14 CCR § 916.4 [936.4, 956.4], subsection (a).

(2) Class I watercourses with confined channels in watersheds in the coho salmon ESU: The following are the minimum requirements for WLPZ delineation and timber operations in Class I WLPZs in watersheds in the coho salmon ESU where confined channels are present. WLPZ width ranges from 100-150 feet slope distance, depending on the silvicultural system applied above the WLPZ. Three Zones are established within the WLPZs: The Core Zone is nearest to the water, the Inner Zone is the middle zone contiguous to the Core Zone, and the Outer Zone is furthest from the water and contiguous to the Inner Zone. Graphic depictions of zones and the abbreviated descriptions of the silvicultural prescriptions and operational requirements are shown in Figure 4.

(A) Core Zone: The minimum width of the Core Zone shall be 30 feet measured from the watercourse transition line or lake transition line. No timber operations are permitted in this zone except for those listed in 14 CCR § 916.9 [936.9, 956.9], subsection (e) (A)-(F), or

those approved pursuant to 14 CCR § 916.9 [936.9, 956.9], subsection (v). Sanitation-Salvage is prohibited except as provided in 14 CCR § 916.9 [936.9], subsections (s), (t), and (u).

(B) Inner Zone: The minimum width of the Inner zone shall be 70 feet measured from the landward edge of Core Zone. Timber operations are permitted in this zone when conducted to meet the goals of this section, objectives for the Inner Zone in 14 CCR § 916.9 [936.9, 956.9], subsection (c)(2), pursuant to 14 CCR § 916.9 [936.9, 956.9], subsections (e)(A)-(F), or pursuant to 14 CCR § 916.9 [936.9, 956.9], subsection (v). Harvesting prescriptions should focus on practices that use thinning from below. Silvicultural systems for harvesting are limited to the use of the commercial thinning or single tree selection modified to meet the following requirements:

1. The QMD of conifer trees greater than 8 inches dbh in the preharvest project area shall be increased in the postharvest stand.

2. Sanitation-Salvage is prohibited except as provided in 14 CCR § 916.9 [936.9,956.9], subsections (s), (t), and (u).

3. Postharvest stand shall have a minimum 80% overstory canopy cover. The postharvest canopy may be composed of both conifers and hardwood species (preferential to salmonid species such as alder) and shall have at least 25% overstory conifer canopy.

[OPTIONAL AMENDMENT 4 (replaces subsection 3. above) *Postharvest stand shall have a minimum 60% overstory canopy cover. The postharvest canopy may be composed of both conifers and hardwood species (preferential to salmonid species such as alder) and shall have at least 25%* overstory conifer canopy.]

[OPTIONAL AMENDMENT 5 (replaces subsection 3. above) *Postharvest stand shall have a minimum 80% overstory canopy cover in the Coast Forest Practice District of the coho salmon ESU and a minimum 60%*

overstory canopy cover in the Northern Forest Practice District of the coho salmon ESU. The postharvest canopy may be composed of both conifers and hardwood species (preferential to salmonid species such as alder) and shall have at least 25% overstory conifer canopy.]

4. Postharvest stand shall retain the 13 largest conifer trees (live or dead) on each acre of the Core and Inner Zones. ***[OPTIONAL AMENDMENT 6 (adds language)*** *The RPF may propose to substitute smaller diameter trees when consistent with 14 CCR § 916.9 [936.9, 956.9], subsection (f)(2)(B)(5.). The RPF must explain and justify in the PLAN why the proposed substitution is more conducive to current and long-term large woody debris recruitment, shading, bank stability, and the beneficial functions of riparian zones.]*

5. Large trees retained to meet 14 CCR § 916.9 [936.9, 956.9], subsections (f)(2)(B)(1.)-(4.) above that are the most conducive to recruitment to provide for the beneficial functions of riparian zones (i.e. trees with significant lean towards the channel, in an advanced state of decay, located on unstable areas or downslope of such an unstable areas, or have undermined roots) are to be given priority to be retained as future recruitment trees.

6. [OPTIONAL AMENDMENT 7 (adds language) *Angular Canopy Density shall not be reduced below 80% in the post-harvest stand.]*

7.**[OPTIONAL AMENDMENT 8 (adds language)** *Postharvest basal area stocking shall have 250 square feet/acre or greater where greater than 50% of the preharvest dominant and codominant conifer stand is occupied by coastal redwood, 200 square feet or greater where greater than 50% of the preharvest dominant and codominant conifer*

stand is occupied by Douglas-fir forest type, and 180 square feet/acre or greater where greater than 50% of the preharvest dominant and codominant conifer stand is occupied by mixed conifer or any other conifer forest types not mentioned in this subsection. Postharvest basal area stocking levels shall have at least 25% overstory conifer canopy, when existing in the preharvest stand. In lieu practices, alternate prescriptions or site specific plans developed pursuant 14 CCR § 916.9 [936.9, 956.9], subsection (v) may be proposed for postharvest basal area stocking lower than the values above. These proposals shall include a collection of relevant stand data and growth modeling to show how the proposal will shorten the time required to provide an increasing number of large trees that contributes to properly functioning salmonid habitat. Guidance for procedures can be found in Flood Prone Area Considerations in the Coast Redwood Zone (Riparian Protection Committee Report, Cafferata et al 2005).]

(C) Outer Zone: The minimum width of the Outer Zone shall be 50 feet measured from the landward edge of Inner Zone. This zone is required where evenaged regeneration methods, seed tree removal, shelterwood removal, alternative prescriptions declared under 14 CCR § 913.6 [933.6. 953.6], subsection (b)(3) as most related to any evenaged silvicutural system, variable retention or rehabilitation of understocked areas will be utilized contiguous to the watercourse and lake protection zone. Timber harvesting is permitted in this zone when conducted to meet the goals of this section, including those for the Outer Zone in 14 CCR § 916.9 [936.9, 956.9], subsection (c)(3), (5) and (6), pursuant to 14 CCR § 916.9 [936.9], subsection (e) (A)-(F), or pursuant to 14 CCR § 916.9 [936.9], subsection (v). Silvicultural systems for harvesting are limited to the use of the commercial thinning or single tree selection

modified to meet the following requirements:

1. Postharvest stand shall have a minimum 50% overstory canopy cover. The postharvest canopy may be composed of both conifers and hardwood species and shall have at least 25% overstory conifer canopy.

2. Priority shall be given to retain wind firm trees.

[OPTIONAL AMENDMENT 9 (replaces subsection (C) above) Outer Zone:

The minimum width of the Outer Zone shall be 50 feet measured from the landward edge of Inner Zone. This zone is required where windthrow is a demonstrated occurrence or where tractor logging is proposed on slopes greater than 50% in areas contiguous to watercourse and lake protection zone. Timber harvesting is permitted in this zone when conducted to meet the goals of this section, including those for the Outer Zone in 14 CCR § 916.9 [936.9, 956.9], subsection (c)(3),(5), (6), pursuant to 14 CCR § 916.9 [936.9, 956.9], subsection (e)(A)-(F), or pursuant to 14 CCR § 916.9 [936.9, 956.9], subsection (v). Silvicultural systems for harvesting are limited to the use of the commercial thinning or single tree selection modified to meet the following requirements:

***1**. Postharvest stand shall have a minimum 50% overstory canopy cover. The postharvest canopy may be composed of both conifers and hardwood species and shall have at least 25% overstory conifer canopy.*

***2**. Priority shall be given to retain wind firm trees.]*

(D) Best Management Practices in the Inner and Outer Zones: When timber operations are considered pursuant to 14 CCR §§ 916.3 [936.3, 956.3], subsection (c) and 916.4 [936.4, 956.4], subsection (d), the following Best Management Practices should be considered for inclusion in the Plan by the RPF and by the Director:

1. Preflagging or marking of any skid trails before the preharvest inspection;

2. Heavy equipment should be limited to slopes less than 35% with low or moderate EHRs;

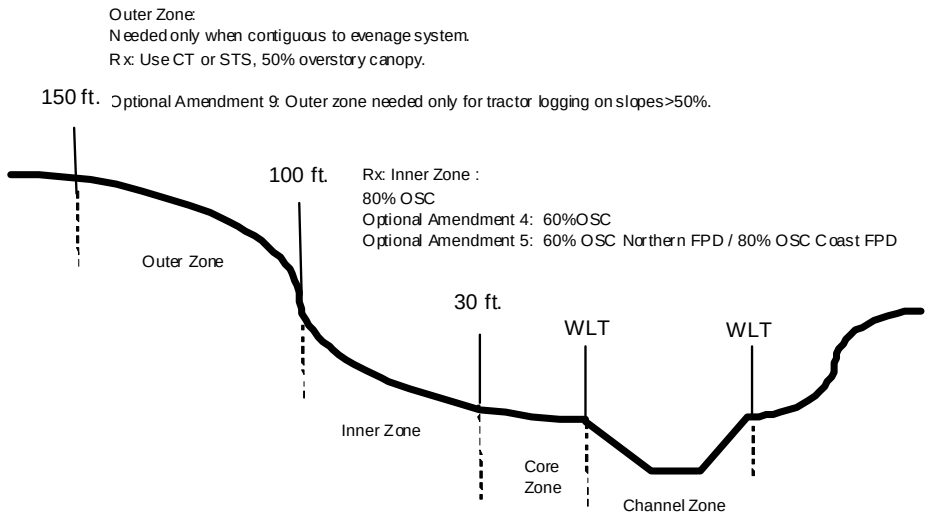
3. Use feller bunchers or hydraulic heel boom loaders which do not drag/skid logs through the zone;

4. Minimize turning of heavy equipment which would result in increased depth of ground surface depressions; and

5. Use mechanized harvesting equipment which delimb harvested trees on pathway over which heavy equipment would travel.

(E) Additional Special Operating Zone: For situations contiguous to the Outer Zone where evenaged regeneration methods, seed tree removal step, shelterwood removal step, alternative prescriptions declared under 14 CCR § 913.6 [933.6, 953.6], subsection (b)(3) as most related to any evenaged silvicutural system**,** variable retention or rehabilitation of understocked areas with the same effect as a clearcut is used, slopes are greater than 50%, and the Outer Zone is located on any north aspect, the RPF shall consider the need for additional shading from solar radiation from beneath the overstory canopy that is expected to have a potential significant adverse impact on water temperature. When there is a determination for the need of the special operating zone, the special operating zone shall retain understory or mid-canopy conifers and hardwoods. These trees shall be protected during falling, yarding and site preparation to the extent feasible.

Figure 4: Graphic of profile view of Class I WLPZ with confined channels in watersheds in the coho salmon ESU (not to scale)



(3) Class I watercourses with flood prone areas or channel migration zones: The following are the minimum requirements for WLPZ delineation and timber operations in Class I WLPZs in locations where flood prone areas and/or CMZs are present (where the width of the valley floor is often 2-4 times channel zone width or more). WLPZ widths vary depending on the extent of the flood prone area and silvicultural system applied contiguous to the WLPZ.

There are up to five zones established within the WLPZ: The CMZ (when present), the Core Zone is the portion of the flood prone area nearest the water (and contiguous to the CMZ when present), the Inner Zone A is contiguous to the Core Zone , the Inner Zone B is contiguous to Inner Zone A and extends to the landward edge of the flood prone area, and the Outer Zone is hillslope area and is contiguous to the Inner Zone B and landward perimeter of

the flood prone area. The zones and the abbreviated descriptions of the silvicultural prescriptions, and operational requirements are shown in Figure 5.

(A) Channel Migration Zone: When a CMZ is present, no timber operations are permitted in this zone except for those listed in § 916.9 [936.9, 956.9], subsection (e)(1)(A)-(F), or pursuant to 14 CCR § 916.9 [936.9,956.9], subsection (v).

(B) Core Zone: The minimum width of the Core Zone shall be 30 feet measured from the watercourse transition line or lake transition line. No timber operations are permitted in this zone except for those listed in 14 CCR § 916.9 [936.9, 956.9], subsection (e) (A)-(F), or those approved pursuant to 14 CCR § 916.9 [936.9, 956.9], subsection (v). Sanitation-Salvage is prohibited except as provided in 14 CCR § 916.9 [936.9, 956.9], subsections (s), (t), and (u).

(C) Inner Zone A: The Inner Zone A generally encompasses the portion of the flood prone area from 30 feet beyond the WTL (Core Zone perimeter) up to 150 feet from the WTL. The minimum width of the Inner Zone A shall be the greater of the area from the landward edge of Core Zone to the landward edge of the Inner Zone B or 70 feet. The maximum width is 120 feet. Timber operations are permitted in this zone when conducted to meet the goals of this section, including those for the Inner Zone in 14 CCR § 916.9 [936.9], subsection (c)(2), pursuant to 14 CCR § 916.9 [936.9, 956.9], subsections (e) (A)-(F) or pursuant to 14 CCR § 916.9 [936.9, 956.9], subsection (v). Harvesting prescriptions should focus on practices that use thinning from below. Silvicultural systems for harvesting are limited to the use of the commercial thinning or single tree selection modified to meet the following requirements:

1. The QMD of conifer trees greater than 8 inches dbh in the preharvest project area shall be increased in the postharvest stand.

2. Sanitation-Salvage is prohibited except as provided in 14 CCR § 916.9 [936.9, 956.9], subsections (s), (t), and (u).

3. Postharvest stand shall have a minimum 80% overstory canopy cover. The postharvest canopy may be composed of both conifers and hardwood species (preferential to salmonid species such as alder) and shall have at least 25% overstory conifer canopy.

[OPTIONAL AMENDMENT 4 (replaces subsection 3. above) *Postharvest stand shall have a minimum 60% overstory canopy cover. The postharvest canopy may be composed of both conifers and hardwood species (preferential to salmonid species such as alder) and shall have at least 25%* overstory conifer canopy.]

[OPTIONAL AMENDMENT 5 (replaces subsection 3. above) *Postharvest stand shall have a minimum 80% overstory canopy cover in the Coast Forest Practice District of the coho salmon ESU and a minimum 60% overstory canopy cover in the Northern Forest Practice District of the coho salmon ESU. The postharvest canopy may be composed of both conifers and hardwood species (preferential to salmonid species such as alder) and shall have at least 25% overstory conifer canopy.**]***

4. Postharvest stand shall retain the 13 largest conifer trees (live or dead) on each acre of the Core and Inner Zones. ***[OPTIONAL AMENDMENT 6 (adds language)*** *The RPF may propose to substitute smaller diameter trees when consistent with 14 CCR § 916.9 [936.9, 956.9], subsection (f)(3)(B)(5.). The RPF must explain and justify in the PLAN why the proposed substitution is more conducive to current and long-term large woody debris recruitment, shading, bank stability, and the beneficial functions of riparian zones.**]***

5. Large trees retained to meet 14 CCR § 916.9 [936.9, 956.9], subsection (f)(3)(C)(1.)-(4.) above that are the most conducive to recruitment to provide for the

beneficial functions of riparian zones (i.e. trees with significant lean towards the channel, in an advanced state of decay, located on unstable areas or downslope of such an unstable areas, or have undermined roots) are to be given priority to be retained as future recruitment trees.

6. [OPTIONAL AMENDMENT 7 (adds language) *Angular* Canopy Density shall not be reduced below 80% in the post-harvest stand.]

7.[OPTIONAL AMENDMENT 8 (adds language) *Postharvest basal area stocking shall have 250 square feet/acre or greater where greater than 50% of the preharvest dominant and codominant conifer stand is occupied by coastal redwood, 200 square feet or greater where greater than 50% of the preharvest dominant and codominant conifer stand is occupied by Douglas-fir forest type, and 180 square feet/acre or greater where greater than 50% of the preharvest dominant and codominant conifer stand is occupied by mixed conifer or any other conifer forest types not mentioned in this subsection. Postharvest basal area stocking levels shall have at least 25% overstory conifer canopy, when existing in the preharvest stand. In lieu practices, alternate prescriptions or site specific plans developed pursuant 14 CCR § 916.9[936.9, 956.9], subsection (v) may be proposed for postharvest basal area stocking lower than the values above. These proposals shall include a collection of relevant stand data and growth modeling to show how the proposal will shorten the time required to provide an increasing number of large trees that contributes to properly functioning salmonid habitat. Guidance for procedures can be found in Flood Prone Area Considerations in the Coast Redwood Zone*

(Riparian Protection Committee Report, Cafferata et al 2005).]

(D) Inner Zone B: The Inner Zone B is typically applicable when there are very wide flood prone areas. The Inner Zone B encompasses the portion of the flood prone area from the landward edge of the Inner Zone A (i.e.150 feet from the WTL) to the landward edge of the flood prone area. The landward edge of the Inner Zone B (i.e. the landward perimeter of the flood prone area) shall be established in accordance with flood prone area definitions in 14 CCR § 895.1. Timber operations is permitted in this zone when conducted to meet the goals of this section, including those for the Inner Zone in 14 CCR § 916.9 [936.9, 956.9], subsection (c)(2), 14 CCR § 916.9 [936.9,956.9], subsection (e) (A)-(F), or pursuant to 14 CCR § 916.9 [936.9,956.9], subsection (v). Silvicultural systems for harvesting are limited to the use of the commercial thinning or single tree selection modified to meet the following requirements:

1. Postharvest stand shall retain the 13 largest conifer trees (live or dead) on each acre of the Core and Inner Zones.

2. Postharvest stand shall have a minimum 50% overstory canopy cover. The postharvest canopy may be composed of both conifers and hardwood species (preferential to salmonid species such as alder) and shall have at least 25% overstory conifer canopy.

(E) Best Management Practices in the Inner Zone A and B of flood prone areas. When timber operations are considered pursuant to 14 CCR § 916.3 [936.3, 956.3], subsection (c) and 916.4 [936.4, 956.4], subsection (d), the following Best Management Practices should be considered for inclusion in the Plan by the RPF and by the Director when timber operations are conducted in the Inner Zones of the flood prone area.

1. Implement actions to improved salmonid habitat conditions: Implement maintenance and repair actions that contribute to improving undesired existing conditions and contribute to restoring properly functioning salmonid habitat.

2. Minimize Yarding and Skidding: Skid trails, yarding corridors, falling activities, and log yarding, should not alter the natural drainage or flow patterns. EEZ of 30 feet should be applied near side channels and areas of ponding. Very limited, pre-flagged, pre-approved prior to falling skid trails shall be used and abandoned so as to minimize risk of becoming new secondary channels by flood flows. Minimize or exclude, to the extent feasible, tractor skidding/crossings over, through, or along secondary channels (protection of overflow channels is a key element). Locate tractor roads on high ground areas to the greatest extent possible. When feasible, use feller bunchers which do not drag/skid logs through the zone, minimize turning of equipment which would result in increased depth of ground surface depressions, and utilize mechanized harvesting equipment which delimbs harvested trees on the pathway over which equipment would travel. Cable yarding corridors should be located at wide intervals consistent with practices that use lateral yarding. Full suspension should be used when possible.

3. Minimize Soil Erosion and Prevent Discharge: Design timber operations to avoid turbid runoff by treating any ground disturbance greater than 100 square feet. Operations shall be conducted only in dry soil conditions. Avoid disturbance of vegetation not intended for harvest that could increase the likelihood of erosion or damages the reinforcing root network on the channel banks, including any secondary overflow channel. . Restore any tracks or trails to an original surface.

4. Avoid Road and Landing Use: All new roads and landings shall be located outside of zone. When feasible, minimize use of existing roads and landings in the flood prone area. No servicing of equipment within the flood prone area. Exceptions include the use of road and landings to accomplish actions to improved salmonid habitat conditions stated 14 CCR 916.9 [936.9, 956.9], subsection (3)(E)(1.) above.

5. Avoid Slash concentration and Site Preparation: Logging slash shall not be disposed of or concentrated in side channels. When slash is treated within the flood prone areas, scatter slash and avoid piling or other concentrations that may obstruct flows in side channels. When feasible, concentrate/mulch slash in tractor roads. No mechanical site preparation, broadcast burning or pile burning.

6. Delineate Zone on the Ground: Locations of all WLPZ zones and CMZs shall be designated on the ground.

7. Avoid Use of Water Drafting Sites: Water drafting sites shall be located outside flood prone areas when feasible (exceptions could include, but are not limited to, drafting from an existing watercourse crossing that is appropriately engineered to facilitate properly functioning salmonid habitat and those sites designed and permitted pursuant to a waste discharge or steam alteration permits.

8. Avoid Disturbance to Critical Flood Prone Area Habitat: Avoid disturbance of abandoned meanders, oxbox lakes, or other features that provide off-channel habitat for fish during flood flows. Avoid activities that could increase potential for diversion or avulsion of stream flow out of existing channel, including breaching or lowering the elevation of natural levees. Retain adequate hydraulic roughness provided by trees on the floodplain surface, thereby slowing flood water velocity on floodplains, attenuating peak flood flows, and allowing sediment to be deposited. Retain existing deciduous hardwoods preferential to anadromous salmonid species and down large woody debris.

(F) Outer Zone: The width of the Outer Zone is 50 feet measured from the landward edge of Inner Zone. This zone is required where evenaged regeneration methods, seed tree removal, shelterwood removal, alternative prescriptions declared under 14 CCR § 913.6 [933.6], subsection (b)(3) as most related to any evenaged silvicutural system**,** variable retention or rehabilitation of understocked areas will be utilized contiguous to the watercourse

and lake protection zone. Timber operations are permitted in this zone when conducted to meet the goals of this section, including those for the Outer Zone in 14 CCR § 916.9 [936.9, 956.9], subsection (c)(3), (5) and (6), pursuant to 14 CCR § 916.9 [936.9] subsection (e) (A)-(F), or pursuant to 14 CCR § 916.9 [936.9, 956.9], subsection (v). Silvicultural systems for harvesting are limited to the use of the commercial thinning or single tree selection modified to meet the following requirements:

1. Postharvest stand shall have a minimum 50% overstory canopy cover. The postharvest canopy may be composed of both conifers and hardwood species and shall have at least 25% overstory conifer canopy.

2. Priority shall be given to retain wind firm trees.

[OPTIONAL AMENDMENT 9 (replaces subsection (F) above) Outer Zone:

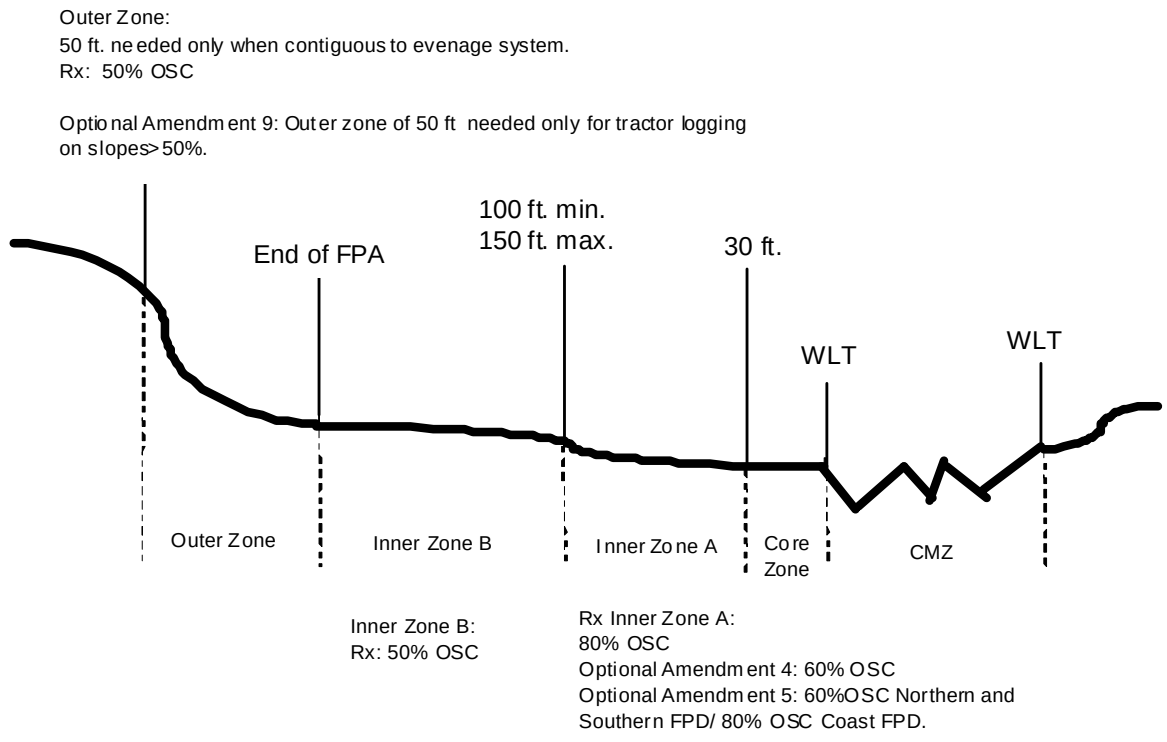
The minimum width of the Outer Zone shall be 50 feet measured from the landward edge of Inner Zone. This zone is required where windthrow is a demonstrated occurrence or where tractor logging is proposed on slopes greater than 50% in areas contiguous to watercourse and lake protection zone. Timber harvesting is permitted in this zone when conducted to meet the goals of this section, including those for the Outer Zone in 14 CCR § 916.9 [936.9, 956.9], subsection (c)(3),(5), (6), pursuant to 14 CCR § 916.9 [936.9, 956.9], subsection (e) (A)-(F), or pursuant to 14 CCR § 916.9 [936.9, 956.9], subsection (v). Silvicultural systems for harvesting are limited to the use of the commercial thinning or single tree selection modified to meet the following requirements:

***1**. Postharvest stand shall have a minimum 50% overstory canopy cover. The postharvest canopy may be composed of both*

conifers and hardwood species and shall have at least 25% overstory conifer canopy.

***2.** Priority shall be given to retain wind firm trees.]*

Figure 5 : Graphic in Profile View of Class I WLPZ in flood prone areas and channel migration zones (not to scale)



(4) Site-Specific Plans for watercourses with flood prone areas or channel migration zones: This section is an optional approach to be used at the discretion of the plan submitter. When used, this section replaces requirements found in 14 § 916.6 [936.9, 956.9], subsection (f)(3). The goal of this approach is to allow RPFs to develop a site specific plan for salmonid habitat protection on a flood prone area. Site specific plans are to lead to development of properly functioning salmonid habitat and can include active management to restore the beneficial uses of the riparian zone.

(A) Timber operations are limited to the flood prone areas beyond the outer margin of a CMZ.

(B) RPFs are to propose riparian protection zones and management practices that are designed for local conditions.

(C) Site specific assessments shall include:

1. Identifying the issues that need to be considered for watercourse and riparian protections [refer to Table 1 of "*Flood Prone Area Considerations in the Coast Redwood Zone* "(Riparian Protection Committee Report, Cafferata et al 2005)

2. Describing processes that need to be considered for the issues identified above.

3. Developing a method to define a desired trajectory for watercourse and riparian conditions in the context of known limiting factors for salmonids in the watershed.

4. Defining how the proposed operations will aid reaching the desired trajectories.

5. Disclosing assumptions being made at each step and limits to both the science and the proposed management activities.

6. Identifying how to determine what needs to be monitored and how to conduct the monitoring.

7. Supporting documentation is required including but not limited to field data, NetMap analysis, large wood modeling results, etc.

(D) As described in the "*Flood Prone Area Considerations in the Coast Redwood Zone*"' (Cafferata et al 2005), the site-specific plan for Class I flood prone area management shall include:

1. an inventory of the flood prone area for all hydrologic, geomorphic, and biological functions present that can be affected by timber operations;

2. a determination of the category of inundation where management is proposed [i.e., very frequent (1-5 yr recurrence interval or RI), frequent (5-20 yr RI), moderately frequent (20-50 yr RI), or infrequent (50+ yr RI)]; and

3. an appropriate analysis for functions present in light of possible significant adverse impacts from management. Analysis for hydrologic functions may include how the flood prone area vegetative roughness will change with timber operations. Analyses for geomorphic functions may include how proposed operations will change bank stabilization, amount of soil disturbance on the flood prone area, and the potential for channel avulsion. Analyses for biological functions may include how harvesting will affect overflow channels, large wood recruitment, stream shading, riparian microclimate, organic matter input, and terrestrial wildlife habitat.

(E) Disclosure and analysis requirements increase with increased risk associated with the proposed level of activity and the increased frequency of inundation in the flood prone area. In particular, management proposed within the 20 year recurrence interval flood prone area in a watershed with coho salmon habitat or restorable habitat requires detailed analysis.

(F) In addition to considering how proposed prescriptions will affect flood prone area functions at the project level, site specific plans must consider a larger watershed

perspective that includes consideration of the stream network and past activities in the watershed. Also, consideration must be given to the current condition of the flood prone area.

(G) Information provided in the "*Flood Prone Area Considerations in the Coast Redwood Zone* " (Cafferata et al 2005) is to be used for guidance in the coast redwood zone.

(H) The site-specific plan for Class I riparian management must: (1) have Review Team agencies pre-consultation and receive concurrence from the Review Team agencies, including DFG, and (2) include a monitoring component.

(5) Class I watercourses with confined channels outside watersheds in the coho salmon ESU: The following are the minimum requirements for WLPZ delineation and timber operations in Class I WLPZs in locations outside of watersheds in the coho salmon ESU where confined channels are present. WLPZ width is 100 feet slope distance, with an additional 25 foot ELZ depending on the silvicultural system applied contiguous to the WLPZ. Three zones are established within the WLPZs: The Core Zone is nearest to the water, the Inner Zone is the middle zone contiguous to the Core Zone, and the Outer Zone is furthest from the water and contiguous to the Inner Zone. Graphic depiction of zones and the abbreviated descriptions of the silvicultural prescriptions and operational requirements are shown in Figure 6.

(A) Core Zone: The minimum width of the Core Zone shall be 30 feet measured from the watercourse transition line or lake transition line. No timber operations are permitted in this zone except for those listed in 14 CCR § 916.9 [936.9, 956.9], subsection (e) (A)-(F), or those approved pursuant to 14 CCR § 916.9 [936.9, 956.9], subsection (v). Sanitation-Salvage is prohibited except as provided in 14 CCR § 916.9 [936.9, 956.9], subsections (s), (t), and (u).

(B) Inner Zone: The minimum width of the Inner Zone shall be 40 feet measured from the landward edge of Core Zone. Timber operations are permitted in this zone when conducted to meet the goals of this section, including those for the Inner Zone in 14 CCR § 916.9 [936.9, 956.9], subsection (c)(2), pursuant to 14 CCR § 916.9 [936.9, 956.9],

subsections (e) (A)-(F) or pursuant to 14 CCR § 916.9 [936.9, 956.9], subsection (v). Harvesting prescriptions should focus on practices that use thinning from below. Silvicultural systems for harvesting are limited to the use of the commercial thinning or single tree selection modified to meet the following requirements:

1. The QMD of conifer trees greater than 8 inches dbh in the preharvest project area shall be increased in the postharvest stand.

2. Sanitation-Salvage is prohibited except as provided in 14 CCR § 916.9 [936.9,956.9], subsections (s), (t), and (u).

3. Postharvest stand shall have a minimum 70% overstory canopy cover. The postharvest canopy may be composed of both conifers and hardwood species (preferential to salmonid species such as alder) and shall have at least 25% overstory conifer canopy.

[OPTIONAL AMENDMENT 4 (replaces subsection 3. above) *Postharvest stand shall have a minimum 60% overstory canopy cover. The postharvest canopy may be composed of both conifers and hardwood species (preferential to salmonid species such as alder) and shall have at least 25%* overstory conifer canopy.**]**

4. Postharvest stand shall retain the 7 largest conifer trees (live or dead) on each acre of the Core and Inner Zones. ***[OPTIONAL AMENDMENT 6 (adds language)*** *The RPF may propose to substitute smaller diameter trees when consistent with 14 CCR § 916.9 [936.9, 956.9], subsection (f)(2)(B)(5.). The RPF must explain and justify in the plan why the proposed substitution is more conducive to current and long-term large woody debris recruitment, shading, bank stability, and the beneficial functions of riparian zones.]*

5. Large trees retained to meet 14 CCR § 916.9 [936.9, 956.9], subsection (f)(5)(B)(1.)-(4.) above that are the most conducive to recruitment to provide for the beneficial functions of riparian zones (i.e. trees with significant lean towards the channel, in an advanced state of decay, located on unstable areas or downslope of such an unstable areas, or have undermined roots) are to be given priority to be retained as future recruitment trees.

6. [OPTIONAL AMENDMENT 7 (adds language) Angular Canopy Density shall not be reduced below 80% in the post-harvest stand.**]**

7.[OPTIONAL AMENDMENT 8 (adds language) *Postharvest basal area stocking shall have 250 square feet/acre or greater where greater than 50% of the preharvest dominant and codominant conifer stand is occupied by coastal redwood, 200 square feet or greater where greater than 50% of the preharvest dominant and codominant conifer stand is occupied by Douglas–fir forest type, and 180 square feet/acre or greater where greater than 50% of the preharvest dominant and codominant conifer stand is occupied by mixed conifer or any other conifer forest types not mentioned in this subsection. Postharvest basal area stocking levels shall have at least 25% overstory conifer canopy, when existing in the preharvest stand. In lieu practices, alternate prescriptions or site specific plans developed pursuant 14 CCR § 916.9 [936.9, 956.9], subsection (v) may be proposed for postharvest basal area stocking lower than the values above. These proposals shall include a collection of relevant stand data and growth modeling to show how the proposal will shorten the time required to*

provide an increasing number of large trees that contributes to properly functioning salmonid habitat. Guidance for procedures can be found in Flood Prone Area Considerations in the Coast Redwood Zone (Riparian Protection Committee Report, Cafferata et al 2005).]

(C) Outer Zone: The minimum width of the Outer Zone shall be 30 feet measured from the landward edge of Inner Zone. When evenaged regeneration methods, seed tree removal, shelterwood removal, alternative prescriptions declared under 14 CCR § 913.6 [933.6, 953.6], subsection (b)(3) as most related to any evenaged silvicutural system, variable retention, or rehabilitation will be utilized contiguous to watercourse and lake protection zones, an additional 25 foot ELZ is required contiguous to the Outer Zone.

Timber operations are permitted in the Outer Zone when conducted to meet the goals of this section, including those for the Outer Zone in 14 CCR § 916.9 [936.9, 956.9], subsection (c)(3),(5) and (6), pursuant to 14 CCR § 916.9 [936.9,956.9], subsection (e) (A)-(F), or pursuant to 14 CCR § 916.9 [936.9,956.9], subsection (v). Silvicultural systems for harvesting are limited to the use of the commercial thinning or single tree selection modified to meet the following requirements:

1. Postharvest stand shall have a minimum 50% overstory canopy cover. The postharvest canopy may be composed of both conifers and hardwood species and shall have at least 25% overstory conifer canopy.

2. Priority shall be given to retain wind firm trees.

(D) Best Management Practices in the Inner and Outer Zone: When timber operations are considered pursuant to 14 CCR §§ 916.3 [936.3, 956.3], subsection (c) and 916.4 [936.4, 956.4], subsection (d), the following Best Management Practices should be considered for inclusion in the Plan by the RPF and by the Director:

1. Preflagging or marking of any skid trails before the preharvest inspection;

2. Heavy equipment should be limited to slopes less than 35% with low or moderate EHRs;

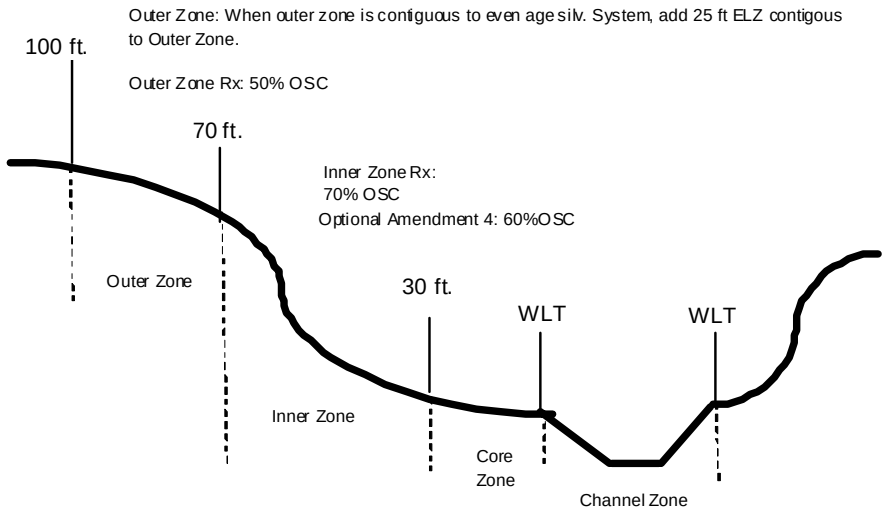
3. Use feller bunchers or hydraulic heel boom loaders which do not drag/skid logs through the zone;

4. Minimize turning of heavy equipment which would result in increased depth of ground surface depressions; and

5. Use mechanized harvesting equipment which delimb harvested trees on pathway over which heavy equipment would travel.

(E) Additional Special Operating Zone: For situations contiguous to the Outer Zone where evenaged regeneration methods, seed tree removal step, shelterwood removal step, alternative prescriptions declared under 14 CCR § 913.6 [933.6, 953.6], subsection (b)(3) as most related to any evenaged silvicutural system**,** variable retention or rehabilitation of understocked areas with the same effect as a clearcut is used, slopes are greater than 50%, and the Outer Zone is located on any north aspect, the RPF shall consider the need for additional shading from solar radiation from beneath the overstory canopy that is expected to have a potential significant adverse impact on water temperature. When there is a determination for the need of the special operating zone, the special operating zone shall retain understory or mid-canopy conifers and hardwoods. These trees shall be protected during falling, yarding and site preparation to the extent feasible.

Figure 6: Graphic in profile view of Class I WLPZ with confined channels outside watersheds in the coho salmon ESU (not to scale)



~~**(f)** The minimum WLPZ width for Class I waters shall be 150 feet from the watercourse or lake transition line. Where a proposed THP is located within the Sacramento or San Joaquin river drainages, and the Director and DFG concur; the RPF may explain and justify other WLPZ widths on areas where even aged regeneration methods, seed tree removal, shelterwood removal, alternative prescriptions, or rehabilitation will not be utilized adjacent to watercourse and lake protection zones and where slopes are less than 30%.~~

(g) Class II watercourses -

The following are the minimum requirements for Class II WLPZ delineation and for timber operations in Class II WLPZs. Differing rules are specified for watersheds in the coho salmon ESU and areas outside the coho salmon ESU. WLPZ width ranges from 50 to 100 feet slope distance, depending on side slope steepness in the WLPZ and watercourse type.

(1) Determine the Class II Watercourse Type: Class II watercourses are composed of two types - Class II-S (standard) watercourses and Class II-L (large) watercourses. A Class II-L watercourse is defined as a Class II watercourse that: (i) can supply water and nutrients to a Class I watercourse during the month of July during an average hydrologic year; (ii) can supply coarse and fine sediment to the Class I channel; and (iii) may be able to supply wood of a size that would function as large wood for the Class I watercourse. Identification of Class II-L watercourse types shall be based on one or more of the office methods specified under 14 CCR § 916.9 [936.9, 956.9] subsection (g) (1) (A) and the field methods specified under 14 CCR § 916.9 [936.9, 956.9], subsection (g) (1) (B). Class II-S watercourses are those classified as Class II watercourses pursuant to 14 CCR § 916.5 [936.5, 956.5], but do not meet the definition of a Class II-L watercourse.

(A) Office-based approaches to identify potential Class II-L watercourses:

1. Stream order: After classifying the watercourses in an area pursuant to 14 CCR § 916.5 [936.5, 956.5], map all Class II watercourses in the area of consideration on current 1:24,000 scale U.S. Geological Survey topographic maps and "order" them following the method of Strahler. Second order and third order Class II watercourses are potentially Class II-L watercourses.

2. "Blue Line" streams: Watercourses mapped with a blue or black line on current 1:24,000 scale U.S. Geological Survey topographic maps that are not Class I are inferred to be Class II-L watercourses.

3. Drainage area: A calculated drainage area known to produce mid-late summer flow based on past plan experience or local knowledge for an ownership or local region and extrapolated over the ownership or local area can indicate a Class II-L watercourses.

(B) Field-based approaches to identify potential Class II-L: Determination of Class II-L watercourses shall be verified in the field by direct channel observations and local experience using one or more of the following approaches.

1. Determine by direct observation or by local knowledge of common mid-summer flow conditions if office mapped Class II-L watercourses contribute flow to a Class I watercourse at least through approximately July 15th following a year with at least average precipitation.

2. Observe channel characteristics such as channel width at bankfull stage, channel depth at bankfull stage, channel slope, mean entrenchment ratio, the presence of springs or seeps, and the presence of aquatic animal and plant life that require mid-summer flow.

3. Use continuous streamflow monitoring data from headwater watercourses to determine the watershed drainage area necessary to initiate mid-summer streamflow for a given ecoregion and extrapolate this data to other headwater basins in that ecoregion.

(C) Based on (A) and (B) above, make a determination if the portion of the Class II watercourse being evaluated meets the definition of a Class II-L watercourse in 14 CCR § 916.9 [936.9, 956.9], subsection (c)(4).

(D) Include documentation in the plan explaining how the Class II-L determination(s) were made within the plan area.

(E) All Class II-L watercourses designated above shall incorporate requirements stated in 14 CCR § 916.9 [936.9, 956.9], (g)(2) for a minimum distance of 1000 feet

[OPTIONAL AMENDMENT 12 (replaces 1000 feet) *650 feet]* or total length of Class II-L, which ever is less, measured from the confluence with a Class I watercourse.

(F) Each portion of a Class II-L watercourse shall be designated on a map included in the plan as either a Class II standard or Class II-L type watercourse.

(2) Class WLPZ widths and operational requirements : All Class II WLPZs shall be composed of two zones regardless of the watercourse type: a Core Zone and an Inner Zone. The Core Zone is nearest to the water, the Inner Zone is contiguous to the Core Zone and is furthest from the water. The width of the Core and Inner Zones vary depending the flowing three factors: (i) side slope steepness in the WLPZ, (ii) whether the watercourse is a Class II standard or Class II-L watercourse type, and (iii) whether the watercourse is within a watershed in the coho salmon ESU or outside the coho ESU. Graphic depictions of zones and the abbreviated descriptions of the silvicultural prescriptions and operational requirements are shown in Figure 7.

(A) Core Zone: The width of Core zone varies from 0 feet to 30 feet measured from the watercourse or lake transition line. When established, no timber operations are permitted in this zone except for those listed in 14 CCR § 916.9 [936.9, 956.9], subsection (e) (A)-(F), or practices approved pursuant to 14 CCR § 916.9 [936.9,956.9], subsection (v). Sanitation-Salvage is prohibited except as provided in § 916.9 [936.9, 956.9], subsections (s), (t), and (u). Table Y. summarizes the minimum width for the Core Zone.

Table Y. Core / Inner Zone widths.

Slope Class	Class II standard (feet)		Class II-L (feet)	
	watersheds in coho ESU	non coho ESU watersheds	watersheds in coho ESU	non coho ESU watersheds
≤10%	0/50	0/50	30/70	20/80
10%-30%	15/35	10/40	30/70	20/80
30-50%	15/60	10/65	30/70	20/80
>50%	15/85	10/90	30/70	20/80

[OPTIONAL AMENDMENT 13 (replaces Table Y, deletes Class II standard in Core Zone]

Table Y. Core / Inner Zone widths.

Slope Class	Class II-L (feet)	
	coho ESU watersheds	non coho ESU watersheds
<30%	30/70	20/80
30-50%	30/70	20/80
>50%	30/70	20/80

(B) Inner Zone: The widths of the Inner Zone vary from 35 feet to 80 feet and shall be measured from the landward edge of Core Zone or WTL, which ever is greater. Timber operations are permitted in this zone when conducted to meet the goals of this section, including those for the Inner Zone in 14 CCR § 916.9 [936.9, 956.9], subsections (c)(2)and (4), pursuant to 14 CCR § 916.9 [936.9,956.9], subsections (e) (A)-(F) or pursuant to 14 CCR § 916.9 [936.9,956.9] subsection (v). Harvesting prescriptions should focus on practices that use thinning from below. Inner Zone widths are summarized in Table Y.

1. Class II standard watercourses: Any Class II standard watercourses shall receive protection in conformance with 14 CCR §§ 916 [936, 956] through 916.7 [936.7, 956.7].

2. Class II-L watercourses in the coho salmon ESU: Silvicultural systems for harvesting are limited to the use of the commercial thinning or single tree selection modified to meet the following requirements:

(i) The QMD of conifer trees greater than 8 inches dbh in the preharvest project area shall be increased in the postharvest stand.

(ii) Sanitation-Salvage is prohibited except as provided in 14 CCR § 916.9 [936.9,956.9].

(iii) Postharvest stand shall have a minimum 80% overstory canopy cover. The postharvest canopy may be composed of both conifers and hardwood species (preferential to salmonid species such as alder) and shall have at least 25% overstory conifer canopy. ***[OPTIONAL AMENDMENT 4 (replaces subsection 3. above)*** *Postharvest stand shall have a minimum 60% overstory canopy cover. The postharvest canopy may be composed of both conifers and hardwood species (preferential to salmonid species such as alder) and shall have at least 25%* overstory conifer canopy.**]**

[OPTIONAL AMENDMENT 5 (replaces subsection 3. above) *Postharvest stand shall have a minimum 80% overstory canopy cover in the Coast Forest Practice District of the coho salmon ESU and a minimum 60% overstory canopy cover in the Northern Forest Practice District of the coho salmon ESU. The postharvest canopy may be composed of both conifers and hardwood species (preferential to salmonid species such as alder) and shall have at least 25% overstory conifer canopy.**]***

(iv) Postharvest stand shall retain the 13 largest conifer trees (live or dead) on each acre of the Core and Inner Zones. ***[OPTIONAL AMENDMENT 6 (adds language)*** *The RPF may propose to substitute smaller diameter trees when consistent with 14 CCR § 916.9 [936.9, 956.9], subsection (f)(2)(B)(5.). The RPF must explain and justify in the plan why the proposed substitution is more conducive to current and long-term large woody debris recruitment, shading, bank stability, and the beneficial functions of riparian zones.]*

(v) Large trees retained to meet 14 CCR § 916.9 [936.9, 956.9], subsection (g)(2)(B)(2.)(i-iv) above that are the most conducive to recruitment to provide for the beneficial functions of riparian zones (i.e. trees with significant lean towards the channel, an advanced state of decay, located on unstable areas or downslope of such an unstable areas, or undermined roots) are to be given priority to be retained as future recruitment trees.

(vi)[OPTIONAL AMENDMENT 7 (adds language) Angular Canopy Density shall not be reduced below 80% in the post-harvest stand.**]**

(vii)* [*OPTIONAL AMENDMENT 8 (adds language) *Postharvest basal area stocking shall have 250 square feet/acre or greater where greater than 50% of the preharvest dominant and codominant conifer stand is occupied by coastal redwood, 200 square feet or greater where greater than 50% of the preharvest dominant and codominant conifer stand is occupied by Douglas-fir forest type, and 180 square feet/acre or greater where greater than 50% of the preharvest dominant and codominant conifer stand is occupied by mixed conifer or any other conifer forest types not mentioned in this*

subsection. Postharvest basal area stocking levels shall have at least 25% overstory conifer canopy, when existing in the preharvest stand. In lieu practices, alternate prescriptions or site specific plans developed pursuant 14 CCR § 916.9 [936.9, 956.9], subsection (v) may be proposed for postharvest basal area stocking lower than the values above. These proposals shall include a collection of relevant stand data and growth modeling to show how the proposal will shorten the time required to provide an increasing number of large trees that contributes to properly functioning salmonid habitat. Guidance for procedures can be found in Flood Prone Area Considerations in the Coast Redwood Zone (Riparian Protection Committee Report, Cafferata et al 2005).]

3. Class II-L watercourses outside watersheds in the coho salmon ESU: Silvicultural systems for harvesting are limited to the use of the commercial thinning or single tree selection modified to meet the following requirements:

(i) The QMD of conifer trees greater than 8 inches dbh in the preharvest project area shall be increased in the postharvest stand.

(ii) Sanitation-Salvage is prohibited except as provided in 14 CCR § 916.9 [936.9,956.9], subsections (s), (t), and (u).

(iii) Postharvest stand shall have a minimum 70% overstory canopy cover. The postharvest canopy may be composed of both conifers and hardwood species (preferential to salmonid species such as alder) and shall have at least 25% overstory conifer canopy. ***[OPTIONAL AMENDMENT 4 (replaces subsection 3. above)*** *Postharvest stand shall have a minimum 60% overstory canopy cover. The postharvest canopy may be composed of both conifers and hardwood*

species (preferential to salmonid species such as alder) and shall have at least 25% overstory conifer canopy.**]**

(iv) Postharvest stand shall retain the 7 largest conifer trees (live or dead) on each acre of the Core and Inner Zones. ***[OPTIONAL AMENDMENT 6 (adds language)*** *The RPF may propose to substitute smaller diameter trees when consistent with 14 CCR § 916.9 [936.9, 956.9], subsection (f)(2)(B)(5.). The RPF must explain and justify in the plan why the proposed substitution is more conducive to current and long-term large woody debris recruitment, shading, bank stability, and the beneficial functions of riparian zones.**]***

(v) Large trees retained to meet 14 CCR § 916.9 [936.9, 956.9], subsection (g)(2)(B)(3.)(i-iv) above that are the most conducive to recruitment to provide for the beneficial functions of riparian zones (i.e. trees with significant lean towards the channel, an advanced state of decay, located on unstable areas or downslope of such an unstable areas, or undermined roots) are to be given priority to be retained as future recruitment trees.

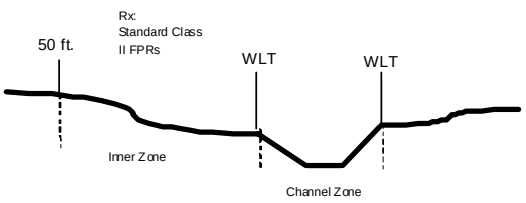
(vi) ***[OPTIONAL AMENDMENT 7 (adds language)*** *Angular Canopy Density shall not be reduced below 80% in the post-harvest stand.**]***

(vii)***[OPTIONAL AMENDMENT 8 (adds language)*** *Postharvest basal area stocking shall have 250 square feet/acre or greater where greater than 50% of the preharvest dominant and codominant conifer stand is occupied by coastal redwood, 200 square feet or greater where greater than 50% of the preharvest dominant and codominant conifer stand is occupied by Douglas–fir forest type, and 180 square feet/acre or greater where greater than 50% of the*

preharvest dominant and codominant conifer stand is occupied by mixed conifer or any other conifer forest types not mentioned in this subsection. Postharvest basal area stocking levels shall have at least 25% overstory conifer canopy, when existing in the preharvest stand. In lieu practices, alternate prescriptions or site specific plans developed pursuant 14 CCR § 916.9 [936.9, 956.9], subsection (v) may be proposed for postharvest basal area stocking lower than the values above. These proposals shall include a collection of relevant stand data and growth modeling to show how the proposal will shorten the time required to provide an increasing number of large trees that contributes to properly functioning salmonid habitat. Guidance for procedures can be found in Flood Prone Area Considerations in the Coast Redwood Zone (Riparian Protection Committee Report, Cafferata et al 2005).]

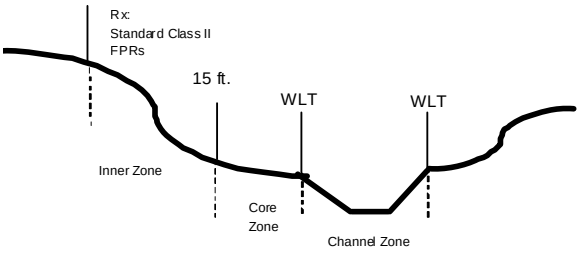
Figure 7: Graphic in profile view of WLPZs for Class II Watercourses in watersheds in the coho salmon ESU (not to scale)

Class II Standard WLPZ in watersheds in the coho salmon ESU < 10% slope

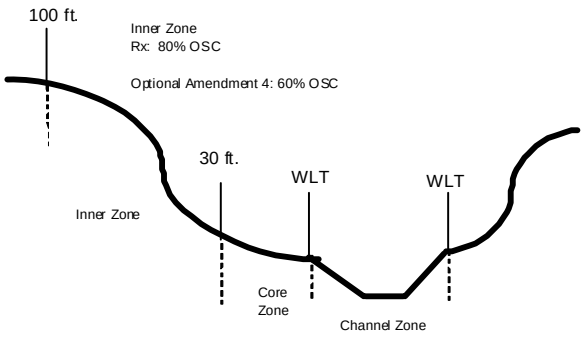


Class II Standard WLPZ - watersheds in the coho salmon ESU

50 ft with slopes <30%
75 ft. with slopes 30% to 50%
100 ft with slopes >50%



Class II Large WLPZ - watersheds in the coho ESU



~~**(g)** Within a WLPZ for Class I waters, at least 85 percent overstory canopy shall be retained within 75 feet of the watercourse or lake transition line, and at least 65 percent overstory canopy within the remainder of the WLPZ. The overstory canopy must be composed of at least 25% overstory conifer canopy post-harvest. Where a proposed THP is located within the Sacramento or San Joaquin river drainages, and the Director and DFG concur; the RPF may explain and justify other canopy retention standards on areas where even aged regeneration methods, seed tree removal, shelterwood removal, alternative prescriptions, or rehabilitation will not be utilized adjacent to watercourse and lake protection zones and where slopes are less than 30%. Harvesting of hardwoods shall only occur for the purpose of enabling conifer regeneration.~~

(h) Class III watercourses –

The following are the minimum requirements for timber operations in Class III watercourses in watersheds with listed anadromous salmonids, unless explained and justified in the plan and approved by the Director.

(1) Establish a 30 foot wide ELZ on both sides of the watercourse for slopes less than 30% and an additional 20 foot ELZ where sideslopes are >30%. The ELZ is measured from the WLT. Within the ELZ:

(A) no new construction of tractor roads permitted;

(B) no ground based equipment on slopes >50%; and

(C) ground-based operations are limited to existing stable tractor roads without visible evidence of sediment deposition to the adjacent channels zone or to the use of feller-bunchers or shovel yarding.

(2) Retain all pre-existing large wood on the ground within the ELZ that is stabilizing sediment and is necessary to prevent potential discharge into the watercourse.

[OPTIONAL AMENDMENT 15 (replaces (4)) *Retain all pre-existing non merchantable large wood on the ground within the ELZ that is stabilizing sediment and is necessary to prevent potential discharge into the watercourse.*

(3) Retain all pre-existing down wood and debris in the channel zone.

(4) Retain hardwoods, where feasible, within the 30 ft. wide ELZ.

[OPTIONAL AMENDMENT 16 (replaces (4)) *Retain non merchantable hardwoods, where feasible, within the 30 ft ELZ.]*

[OPTIONAL AMENDMENT 17 (replaces (4)) *Retain hardwoods, where feasible, within the ELZ.*

(5) Retain all snags (except as required for safety) within the ELZ.

(6) Retain all countable trees needed to achieve resource conservation standards in 14 CCR § 912.7 [932.7, 952.7] within the 30 ft. ELZ.

[OPTIONAL AMENDMENT 18 (replaces (6)) *Retain all non merchantable countable trees needed to achieve resource conservation standards in 14 CCR § 912.7 [932.7, 952.7] within the 30 ft. ELZ.]*

[OPTIONAL AMENDMENT 19 (replaces (6)) *Retain all countable trees needed to achieve resource conservation standards in 14 CCR § 912.7 [932.7, 952.7] within the ELZ.* ***]***

(7) Retain all trees in the ELZ and channel zone, excluding sprouting conifers that do not have boles overlapping the channel zone, which show visible indicators of providing bank or bed stability. Visible indicators of stability include roots that permeate the bank or provide channel grade control.

(8) Exceptions pursuant to 14 CCR § 916.9 [936.9, 956.9, subsections (e) (A)-(F) are permitted in any ELZ and channel zone.

~~**(h)** For Class I waters, any plan involving timber operations within the WLPZ shall contain the following information:~~

~~**(1)** A clear and enforceable specification of how any disturbance or log or tree cutting and removal within the Class I WLPZ shall be carried out to conform with 14 CCR 916.2 [936.2, 956.2](a) and 916.9 [936.9, 956.9](a).~~

~~**(2)** A description of all existing permanent crossings of Class I waters by logging roads and clear specification regarding how these crossings are to be modified, used, and treated to minimize risks, giving special attention to allowing fish to pass both upstream and downstream during all life stages.~~

~~**(3)** Clear and enforceable specifications for construction and operation of any new crossing of Class I waters to prevent direct harm, habitat degradation, water velocity increase, hindrance of fish passage, or other potential impairment of beneficial uses of water.~~

(i) Section reserved for future use. ~~Recruitment of large woody debris for aquatic habitat in Class I anadromous fish-bearing or restorable waters shall be ensured by retaining the ten largest dbh conifers (live or dead) per 330 feet of stream channel length that are the most conducive to recruitment to provide for the beneficial functions of riparian zones. The retained conifers shall be selected from within the THP area that lies within 50 feet of the watercourse transition line. Where the THP boundary is an ownership boundary, a class I watercourse, and the WLPZ on both sides of the watercourse currently meets the stocking standards listed under 14 CCR § 912.7 [932.7,952.7](b)(2)}; the five (5) largest dbh conifers (live or dead) per 330 feet of stream channel length that are the most conducive to recruitment to provide for the beneficial functions of riparian zones within the THP area shall be retained within 50 feet of the watercourse transition line.~~

~~The RPF may propose alternatives to substitute smaller diameter trees, trees that are more than 50 feet from the watercourse transition line, or other alternatives on a site specific~~

~~basis. The RPF must explain and justify in the THP why the proposed alternative is more conducive to current and long-term Large Woody Debris recruitment, shading, bank stability, and the beneficial functions of riparian zones.~~

(j) Inner Gorge - Where an inner gorge extends beyond a Class I WLPZ*****outside a WLPZ.

(k) Year-round logging road, landing and tractor road use limitations - ~~From October 15 to May 1, the following shall apply: (1)no timber operations shall take place unless the approved plan incorporates a complete winter period operating plan pursuant to 14 CCR § 914.7(a) [934.7(a), 954.7(a)], (2)unless the winter period operating plan proposes operations during an extended period with low antecedent soil wetness, no tractor roads shall be constructed, reconstructed, or used on slopes that are over 40 percent and within 200 feet of a Class I, II, or III watercourse, as measured from the watercourse or lake transition line,. and operations of trucks and heavy on logging roads and landings shall be limited to those with a stable operating .~~

(1) Logging roads, landings or tractor roads shall not be used when visibly turbid water from the road, landing or tractor road (skid trail) or an inside ditch associated with the logging road, landing or tractor road may reach a watercourse or lake in amounts sufficient to cause a turbidity increase in Class I, II, III or IV waters.

(2) Log hauling on logging roads and landings shall be limited to those with a stable operating surface and in conformance with (1) above.

(3) Concurrent with use for log hauling, approaches to logging road watercourse crossings shall be treated for erosion control as needed to minimize soil erosion and sediment transport and to prevent the discharge of sediment into watercourses and lakes in quantities deleterious to the beneficial uses of water.

(4) Concurrent with use for log hauling, all traveled surfaces of logging roads in a WLPZ or within any ELZ or EEZ designated for watercourse or lake protection shall be treated for erosion control as needed to minimize soil erosion and sediment transport and to prevent the discharge of sediment into watercourses and lakes in quantities deleterious to the beneficial uses of water.

(5) Grading to obtain a drier running surface more than one time before reincorporation of any resulting berms back into the road surface is prohibited.

(l) Winter period operations-~~Construction or reconstruction of logging roads, tractor roads, or landings shall not take place during the winter period unless the approved plan incorporates a complete winter period operating plan pursuant to 14 § CCR 914.7(a) [934.7(a), 954.7(a)] that specifically address such road construction . Use of logging roads, tractor roads, or landings shall not take place at any location where saturated soil conditions exist, where a stable logging road or landing operating surface does not exist, or when visibly turbid water from the road, landing, or skid trail surface or inside ditch may reach a watercourse or lake. Grading to obtain a drier running surface more than one time before reincorporation of any resulting berms back into the road surface is prohibited.~~From October 15 to May 1, the following shall apply.

(1) No timber operations shall take place unless the approved plan incorporates a complete winter period operating plan pursuant to 14 CCR § 914.7 [934.7, 954.7] subsection (a) that specifically addresses, where applicable, proposed logging road , landing or tractor road construction, reconstruction or use. Where logging road watercourse crossing construction or reconstruction is proposed an implementation schedule shall be specified.

(2) Unless the winter period operating plan proposes operations during an extended period with low antecedent soil wetness, no tractor roads shall be constructed, reconstructed, or used on slopes that are over 40 percent and within 200 feet of a Class I, II, or III watercourse, as measured from the watercourse transition line or lake transition line~~,~~. ~~and~~

(3) Logging roads, landings and tractor roads shall not be used when sediment from the logging road, landing or tractor road surface is transported to a watercourse or a drainage facility that discharges into a watercourse in amounts sufficient to cause a visible increase in turbidity in Class I, II, III, or IV waters.

(4) Logging roads and landings shall not be used for log hauling when saturated soil conditions result in the visible increase in turbidity specified in (3) above.

(m) Tractor Road Drainage Facility Installation- All Tractor roads*****

(n) Treatments to stabilize soils - Within the WLPZ, and within any ELZ or EEZ designated for watercourse or lake protection, treatments to stabilize soils, minimize soil erosion, and prevent the discharge of sediment into watercourses or lakes in amounts deleterious to aquatic species or the quality and beneficial uses of water, or that threaten to violate applicable water quality requirements, shall be described in the plan as follows. ~~applied in accordance with the following standards:~~

~~**(1)** The following requirements shall apply to all such treatments.~~

~~**(A)** They shall be described in the plan.~~

~~**(B)** For areas disturbed from May 1 through October 15, treatment shall be completed prior to the start of any rain that causes overland flow across or along the disturbed surface.~~

~~**(C)** For areas disturbed from October 15 to May 1, treatment shall be completed prior to any day for which a chance of rain of 30 percent or greater is forecast by the National Weather Service or within 10 days, whichever is earlier.~~

[OPTIONAL AMENDMENT 20 (deletes existing language in (2)) ~~(2)~~ The traveled surface of logging roads shall be treated to prevent waterborne transport of sediment and concentration of runoff that results from timber operations. **]**

~~(3)~~**(1)** The treatment for other disturbed areas, including: Soil stabilization is required for the following areas:

(A) ~~a~~Areas exceeding 100 contiguous square feet where timber operations have exposed bare soil~~,~~.

(B) ~~a~~Approaches to tractor road watercourse crossings between the drainage facilities closest to the crossing~~,~~.

(C) Disturbed road cut banks and fills, and

(D) ~~a~~Any other area of disturbed soil that threatens to discharge sediment into waters in amounts deleterious to the quality and beneficial uses of water~~,~~.

(2) Soil stabilization treatment measures may include, but need not be limited to, removal, armoring with rip-rap, replanting, mulching, ~~rip-rapping~~, ~~grass~~ seeding, installing commercial erosion control devices to manufacturer's specifications, or chemical soil stabilizers. ~~Where straw, mulch, or slash is used, the minimum coverage shall be 90%, and any treated area that has been subject to reuse or has less than 90% surface cover shall be treated again prior to the end of timber operations. The RPF may propose alternative treatments that will achieve the same level of erosion control and sediment discharge prevention.~~

~~**(4)** Where the undisturbed natural ground cover cannot effectively protect beneficial uses of water from timber operations, the ground shall be treated by measures including, but not limited to, seeding, mulching, or replanting, in order to retain and improve its natural ability to filter sediment, minimize soil erosion, and stabilize banks of watercourses and lakes.~~

(3) Where straw or slash mulch is used, the minimum straw coverage shall be 90 percent, and any treated area that has been reused or has less than 90 percent surface cover shall be treated again by the end of timber operations.

(4) [OPTIONAL AMENDMENT 21 (adds language) *Where slash mulch is packed into the ground surface through the use of a tractor or*

equivalent piece of heavy equipment the minimum slash coverage shall be 75 percent.]

(5) For areas disturbed from May 1 to October 15, treatment shall be completed prior to the start of any rain that causes overland flow across or along the disturbed surface. ***[OPTIONAL AMENDMENT 22 (adds language)*** *that could deliver sediment into a watercourse or lake in quantities deleterious to the beneficial uses of water.]*

(6) For areas disturbed from October 15 to May 1, treatment shall be completed prior to any day for which a chance of rain of 30 percent or greater is forecast by the National Weather Service or within 10 days, whichever is earlier.

(7) [OPTIONAL AMENDMENT 23 (adds language) *Where the natural ability of ground cover is inadequate to protect beneficial uses of water by minimizing soil erosion or by filtering sediment, the plan shall specify protection measures to retain and improve the natural ability of the ground cover to filter sediment and minimize soil erosion.]*

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

(1) ~~i~~Identify ~~active erosion~~ sites in the logging area. where erosion and sediment production are ongoing during any period of the year and which pose significant risks to the beneficial uses of water~~,~~.

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

(3) ~~and address in the planned feasible remediation for all sites that pose significant wristed beneficial uses of water~~ For sites that pose significant risks to the beneficial uses of water and where feasible remedies exist, the plan shall propose appropriate treatment.

(p) Erosion control maintenance period- The erosion control maintenance period*****shall be three years.

(q) Site preparation - Site preparation activities shall be designed***** under14 CCR 915.4 [936.4, 956.4]

(r) Water drafting - Water drafting for timber operations shall:

(1) Require a notification to the Department of Fish and Game under Fish and Game Code Section 1600, et seq.

(A) Timber operations conducted under a Fish and Game Code Section 1600 master or long-term agreement that includes water drafting may provide proof of such coverage for compliance with this paragraph.

(2) Describe the water drafting site conditions and proposed water drafting activity in the plan, including:

(A) a general description of the conditions and proposed water drafting;

(B) a map showing proposed water drafting locations;

C) the watercourse classification;

(D) the drafting parameters including the months the site is proposed for use; estimated total volume needed per day; estimated maximum instantaneous drafting rate and filling time; and disclosure of other water drafting activities in the same watershed;

(E) the estimated drainage area (acres) above the point of diversion;

(F) the estimated unimpeded streamflow, pumping rate, and drafting duration,

(G) a discussion of the effects on aquatic habitat downstream from the drafting site(s) of single pumping operations, or multiple pumping operations at the same location, and

at other locations in the same watershed;

(H) a discussion of proposed alternatives and measures to prevent adverse effects to fish and wildlife resources, such as reducing hose diameter; using gravity-fed tanks instead of truck pumping; reducing the instantaneous or daily intake at one location; describing allowances for recharge time; using other dust palliatives; and drafting water at alternative sites; and

(I) The methods that will be used to measure source streamflow prior to the water drafting operation and the conditions that will trigger streamflow to be measured during the operation.

(3) All water drafting for timber operations are subject to each requirement below unless the Department of Fish and Game modifies the requirement in the Lake or Streambed Alteration agreement that authorized the drafting operation, or unless otherwise specified below:

(A) All intakes shall be screened to prevent impingement of juvenile fish against the screen. The following requirements apply to screens and water drafting on Class I waters:

1. Openings in perforated plate or woven wire mesh screens shall not exceed 3/32 inches (2.38 millimeters). Slot openings in wedge wire screens shall not exceed 1/16 inches (1.75 millimeters).

2. The screen surface shall have at least 3.0 square feet of openings submerged in water.

3. The drafting operator shall regularly inspect, clean, and maintain screens to ensure proper operation whenever water is drafted.

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

5. The diversion rate shall not exceed 350 gallons per minute.

(B) Approaches and associated drainage features to drafting locations within a WLPZ or channel zone shall be surfaced with rock or other suitable material to minimize generation of sediment.

(C) Barriers to sediment transport, such as straw waddles, logs, straw bales or sediment fences, shall be installed outside the normal high water mark to prevent sediment delivery to the watercourse and limit truck encroachment.

(D) Water drafting trucks parked on streambeds and floodplains shall use drip pans or other devices such as absorbent blankets, sheet barriers or other materials as needed to prevent soil and water contamination from motor oil or hydraulic fluid leaks.

(E) Bypass flows shall be provided in volume sufficient to avoid dewatering the watercourse and maintain aquatic life downstream, and shall conform to the following standard:

1. Bypass flows in the source stream during drafting shall be at least 2 cubic feet.

2. Diversion rate shall not exceed 10 percent of the surface flow.

3. Pool volume reduction shall not exceed 10 percent.

(F) The drafting operator shall keep a log that records for each time water is drafted the date, total pumping time, pump rate, starting time, ending time, and volume diverted. Logs shall be filed with the Department of Forestry and Fire Protection at the end of seasonal operations and maintained with the plan record. This requirement may be modified in the approved plan that covers the water drafting, but only with concurrence from the Department of Fish and Game.

(G) Before commencing any water drafting operation, the RPF and the drafting operator shall conduct a pre-operations field review to discuss the water drafting measures in the plan and/or Lake or Streambed Alteration Agreement.

(r) Water drafting - [OPTIONAL AMENDMENT 25 (replaces entire existing language in (r)) *Water drafting shall not result in significant stream flow reductions during critical low water periods except pursuant to an approved DFG Streambed Alteration Agreement (SAA) or in conformance with 14 CCR 916.9 [936.9, 956.9] subsection (r) (3). Water drafting for timber operations from within a channel zone of a natural watercourse or from a natural lake shall:*

(1) *Comply with Fish and Game Code Section 1600, et seq, where applicable.*

(2) *If the plan proposes water drafting under an approved SAA issued by DFG, the SSA shall be included as an enforceable part of the plan. Supporting information used in review of the SAA may be referenced.*

(3) *For new water drafting locations not already permitted, the plan shall contain as part of the SAA notification, the following information:*

(A) *A description and map of proposed water drafting locations,*

(B) *The watercourse classification at each drafting site,*

(C) *The drafting parameters for each site (i.e., seasonal timing, estimated total volume needed per day, estimated pumping rate and filling time,—*

(D) *Estimated unimpeded streamflow, and duration of reduction,*

(E) *A discussion of the effects of single pumping operations, or multiple pumping operations at the same location, and drafting activities at other locations in the same watershed,*

(F) *A discussion of proposed alternatives and measures to prevent adverse effects (~~for example~~e.g., reduction in hose diameter; use of gravity fed tanks versus truck pumping; reduction in instantaneous or daily intake at one location; described allowances for recharge time; other dust palliatives; and alternative water drafting locations),*

(G) *The methods to be used to determine source flow prior to operations and the conditions that will trigger flow to be measured,*

(H) *A requirement that the RPF, responsible for providing professional advice, and the licensed timber operator conduct a pre-operations field review to discuss water drafting measures in the plan.*

(2) *All water drafting shall conform to the following requirements:*

(A) *All intakes shall be screened. Screens on Class I waters shall be as follows:*

1. *Openings in performed plate or woven wire mesh screens shall not exceed 3/32 inches (2.38 millimeters). Slot openings in wedge wire screens shall not exceed 1.75 millimeters.*

2. *The screen surface shall have at least 2.33 square feet of openings.*

3. *The drafting operator shall actively observe the drafting operation. Pumping shall cease and the screen cleaned if it becomes more than 10 percent obstructed with debris.*

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

5. *The diversion (i.e. pumping) rate shall not exceed 350 gallons per minute (gpm).*

(B) *Approaches and associated drainage structures and facilities to drafting locations within a WLPZ or channel zone shall be surfaced with rock or other suitable material to avoid generation of sediment.* ***]***

~~**(r)** Water drafting for timber operations from within a channel zone of a natural watercourse or from a lake shall conform with the following standards:~~

~~**(1)** The RPF shall incorporate into the THP:~~

~~**(A)** a description and map of proposed water drafting locations,~~

~~**(B)** the watercourse or lake classification, and~~

~~**(C)** the general drafting location use parameters (i.e., yearly timing, estimated total volume needed, estimated total uptake rate and filling time, and associated water drafting activities from other THPs).~~

~~**(2)** On Class I and Class II streams where the RPF has estimated that:~~

~~**(A)** bypass flows are less than 2 cubic feet per second, or~~

~~**(B)** pool volume at the water drafting site would be reduced by 10%, or~~

~~**(C)** diversion rate exceeds 350 gallons per minute, or~~

~~**(D)** diversion rate exceeds 10% of the above surface flow;~~

~~no water drafting shall occur unless the RPF prepares a water drafting plan to be reviewed and, if necessary a stream bed alteration agreement issued, by DFG and approved by the Director. The Director may accept the project description and conditions portion of an approved "Streambed Alteration Agreement" issued under the Fish and Game Code (F&GC 1600 et seq.) which is submitted instead of the water drafting plan described in 14 CCR § 916.9 [936.9, 956.9] (r)(2)(D)(1-5).~~

~~The water drafting plan shall include, but not be limited to:~~

~~**1.** disclosure of estimated percent streamflow reduction and duration of reduction,~~

~~**2.** discussion of the effects of single pumping operations, or multiple pumping operations at the same location,~~

~~**3.** proposed alternatives and discussion to prevent adverse effects (e.g. reduction in hose diameter, reduction in total intake at one location, described allowances for recharge time, and alternative water drafting locations),~~

~~**4.** conditions for operators to include an operations log kept on the water truck containing the following information: Date, Time, Pump Rate, Filling Time, Screen Cleaned, Screen Conditions, and Bypass flow observations,~~

~~**5.** a statement by the RPF for a pre-operations field review with the operator to discuss the conditions in the water drafting plan.~~

~~**(3)** Intakes shall be screened in Class I and Class II waters. Screens shall be designed to prevent the entrainment or impingement of all life stages of fish or amphibians. Screen specifications shall be included in the plan.~~

~~**(4)** Approaches to drafting locations within a WLPZ shall be surfaced with rock or other suitable material to avoid generation of sediment.~~

(s) Exemption notices - No timber operations are allowed in a WLPZ, or within any ELZ or EEZ designated for watercourse or lake protection, under exemption notices except for:

(1) ~~h~~Hauling on existing roads~~,~~.

(2) ~~r~~Road maintenance~~,~~.

(3) ~~o~~Operations conducted for public safety~~,~~.

(4) ~~c~~Construction or reconstruction of approved watercourse crossings~~,~~.

(5) ~~t~~Temporary crossings of dry Class III watercourses which do not require a "Streambed Alteration Agreement" under the Fish and Game Code~~,~~. ~~or~~ (6) ~~h~~Harvesting recommended in writing by DFG to address specifically identified forest conditions.

(t) Emergency notices - No timber operations are allowed in a WLPZ, or within any ELZ or EEZ designated for watercourse or lake protection, under emergency notices except for:(1) ~~h~~Hauling on existing roads~~,~~.

(2) ~~r~~Road maintenance~~,~~.

(3) ~~o~~Operations conducted for public safety~~,~~.

(4) ~~c~~Construction or reconstruction of approved watercourse crossings~~,~~.

(5) ~~t~~Temporary crossings of dry Class III watercourses which do not require a "Streambed Alteration Agreement" under the Fish and Game Code~~,~~.

(6) ~~h~~Harvesting recommended in writing by DFG to address specifically identified forest conditions~~,~~.

(7) ~~t~~The harvest of dead or dying conifer trees subject to the following conditions:

***(*A)** Recruitment of large woody debris for aquatic habitat in Class I and Class II-L ~~anadromous fish-bearing or restorable~~ WLPZs shall be ensured by retaining the ~~ten~~ 13 largest dbh conifers (live or dead) per ~~330 feet of stream channel length~~ acre for plans in watersheds in the coho salmon ESU and 7 largest dbh conifers (live or dead) per acre in watersheds outside the coho salmon ESU, that are the most conducive to recruitment to provide for the beneficial

functions of riparian zones. The retained conifers shall be selected from within the area of operations that lies within 50 feet of the watercourse transition line. ~~Where the area of operations is bounded by an ownership boundary that corresponds with a class I watercourse, and where the WLPZ on both sides of the watercourse currently meets the stocking standards listed under 14 CCR § 912.7 [932.7,952.7](b)(2), the five (5) largest dbh conifers (live or dead) per 330 feet of stream channel length that are the most conducive to recruitment to provide for the beneficial functions of riparian zones shall be retained within 50 feet of the watercourse transition line within the area of operations.~~

The RPF may provide alternatives to substitute smaller diameter trees, trees that are more than 50 feet from the watercourse transition line, or other alternatives on a site specific basis. The RPF must provide with the notice an explanation and justification why the alternative provided is more conducive to current and long-term ~~L~~large ~~W~~woody ~~D~~debris recruitment, shading, bank stability, and the beneficial functions of riparian zones.

(B) Within any WLPZ, ELZ, or EEZ designated for Class II or III watercourse protection, a minimum of two dead, dying, or diseased conifer trees per acre at least 16 inches diameter breast high and 50 feet tall shall be retained within 50 feet of the watercourse transition line.

(C) Trees to be harvested or retained shall be marked by, or under the supervision of, an RPF prior to timber operations within the WLPZ or ELZ/EEZ.

(D) Within the WLPZ or ELZ/EEZ, if the stocking standards of 14 CCR § 912 [932, 952].7 are not met upon completion of timber operations, unless the area meets the definition of substantially damaged timberlands, at least ten trees shall be planted for each tree harvested but need not exceed an average point count of 300 trees per acre.

(u) Salvage logging - No salvage logging *****for streamside salvage operations.

(v) Site-specific measures or nonstandard operational provisions -

(1) In consideration of the spatial variability of the forest landscape, the RPF may propose site-specific measures or nonstandard operational provisions when, in the judgment of the RPF, such measures or provisions offer a more effective or more feasible way of achieving the goals and objectives set forth in 14 CCR § 916.9 [936.9, 956.9], subsections (a) and (c), and would result in effects to the beneficial functions of the riparian zone equal to or more favorable

than those expected to result from the application of the operational provisions required under 14 CCR § 916.9 [936.9, 956.9].

[OPTIONAL AMENDMENT 26 (replaces text in (1) above) *In consideration of the spatial variability of the forest landscape, the RPF may propose site-specific measures or nonstandard operational provisions when, in the judgment of the RPF, such measures or provisions offer a more effective or more feasible way of achieving the goals and objectives set forth in 14 CCR § 916.9 [936.9, 956.9], subsections (a) and (c), and would result in improved beneficial functions of the riparian zone.**]**

(2) Measures or provisions proposed pursuant to 14 CCR § 916.9 [936.9, 956.9], subsections (v) shall only be approved when the plan incorporates an evaluation of the beneficial functions of the riparian zone as set forth in subsection (3) below, or after consultation and written concurrence from DFG prior to plan submittal.

(3) The evaluation of the beneficial functions of the riparian zone shall be included in addition to any evaluation required by all other District Forest Practice Rules, may incorporate by reference any such evaluation, and shall include the following components scaled appropriate to the scope of the proposed measure(s) or provision(s) and the beneficial functions potentially affected.

(A) The following are required components of an evaluation conducted pursuant to 14 CCR § 916.9 [936.9, 956.9], subsection (v)(3):

1. A description of the evaluation area. If the evaluation area is different than the watershed assessment area described pursuant to Technical Rule Addendum No. 2, the RPF shall briefly explain the rationale for establishing the evaluation area.

2. A description of the current condition of the riparian zone within the

evaluation area related to the beneficial functions. The RPF may incorporate by reference any conditions described in the plan pursuant to 14 CCR § 916.4 [936.4, 956.4], subsection (a). The RPF shall use the best available information, at the appropriate scale, to describe the existing vegetation, timber stand characteristics, roads, skid trails, landings, channel types, unstable areas, flood prone areas, and overflow channels.

3. An identification of the beneficial functions that may potentially be affected by the proposed measure(s) or provision(s).

4. An identification of the potential effects to the beneficial functions, both positive and negative. The RPF may use a reasoned analysis to describe the effects and may assign ratings of high, moderate and low to those effects that may individually or cumulatively limit anadromous salmonid distribution and abundance in the watershed.

5. A detailed description of the site-specific measure(s) or nonstandard operational provision(s) proposed. The description should address at a minimum the relationships between the riparian stand characteristics and ecological functions, the relative importance of the beneficial functions of the riparian zone to the watercourse, the cost effectiveness of the measure(s) or provision(s), and the predicted consequences.

6. A schedule for implementing proposed management practices.

(4) Measures or provisions proposed pursuant to 14 CCR § 916.9 [936.9, 956.9], subsections (v) shall only be approved when they meet the following additional standards:

(A) They must be based upon the best available science, and explained and justified in the plan.

(B) They must identify potential significant adverse impacts that may occur to listed salmonids or the beneficial functions of the riparian zone as a result of the proposed measure(s) or provision(s).

(C) They must identify feasible systems, methods, procedures or approaches

proposed to avoid or mitigate identified potential significant adverse impacts to a level of insignificance.

(D) They must be written so they provide clear instructions and enforceable standards for the timber operator;

(E) They must provide that, where appropriate for implementation of the measure(s) or provision(s), the plan submitter is responsible for retaining an RPF to aid in interpreting the plan to the timber operator and timberland owner on a continuing basis to help assure compliance with the measure(s) or provision(s).

(F) They must identify each standard prescription which would be replaced by the measure(s) or provision(s) proposed.

(5) No site-specific measure(s) or nonstandard operational provision(s) proposed pursuant to 14 CCR § 916.9 [936.9, 956.9], subsection (v) may be prescribed by an RPF or approved by the Director in lieu of the following rules:

(A) The rules contained in Subchapter 2 (Application of Forest Practice Rules); Article 2 (Definitions, Ratings, and Standards) and Article 11 (Coastal Commission Special Treatment Areas) of Subchapter 4 (Coast Forest District Rules); Article 2 (Definitions, Ratings, and Standards) of Subchapter 5 (Northern Forest District Rules); Article 2 (Definitions, Ratings, and Standards) and Article 11 (Coastal Commission Special Treatment Areas) of Subchapter 6 (Southern Forest District Rules); and Subchapter 7 (Administration) of Chapter 4, Division 1.5 of the California Administrative Code; or

(B) Any rule pertaining to the width of the special treatment area adjacent to a wild and scenic river declared pursuant to PRC 5093.50, et seq.; or

(C) Any rules or parts of rules that incorporate practices or standards specified in the Forest Practice Act.

(6) The Director shall not accept for inclusion in a plan any site-specific measures or non-standard operational provisions as described in this section where two or more agencies listed in PRC § 4582.6 and 14 CCR § 1037.3 have submitted written comments which lead to the Director's conclusion that the proposed measures or provisions will not meet the goal of this section and the agencyies participated in the review of the plan, including an on-the-ground inspection.

[OPTIONAL AMENDMENT 27 (replaces item 6. text above) (6) *If the Director finds, based upon substantial evidence in the record, that the proposed site-specific measure(s) or nonstandard operational provision(s): (A) achieve the goals and objectives set forth in 14 CCR § 916.9 [936.9, 956.9], subsections (a) and (c); (B) will not result in significant individual or cumulative adverse impacts; (C) is consistent with other applicable laws and regulations, and (D) would result in improved beneficial functions of the riparian zone, the Director shall accept the measure(s) or provision(s) for inclusion in the plan**]**.*

[OPTIONAL AMENDMENT 28 (replace text in (6) above) (6) *If the Director finds, based upon substantial evidence in the record, that the proposed site-specific measure(s) or nonstandard operational provision(s): (A) achieve the goals and objectives set forth in 14 CCR § 916.9 [936.9, 956.9], subsections (a) and (c); (B) will not result in significant individual or cumulative adverse impacts; (C) is consistent with other applicable laws and regulations, and (D)* would result in effects to the beneficial functions of the riparian zone equal to or more favorable than those expected to result from the application of the operational provisions required under 14 CCR §

916.9 [936.9, 956.9], *the Director shall accept the measure(s) or provision(s) for inclusion in the plan.* ***]***

(7) Site-specific measures or nonstandard operational provisions proposed pursuant to 14 CCR § 916.9 [936.9, 956.9], subsection (v) shall not be considered alternative practices pursuant to 14 CCR §§ 897 or 914.9 [934.9, 954.9], in lieu practices or site specific practices pursuant to 14 CCR § 916.1 [936.1, 956.1], or alternative prescriptions for the protection of watercourses or lakes pursuant to 14 CCR § 916.9 [936.6, 956.6].

~~**(v)** Nonstandard practices (i.e., waivers, exceptions, in-lieu practices, and alternative practices) shall comply with the goal set forth in subsection (a) above as well as with the other requirements set forth in the rules.~~

~~**(w)** The Director may approve alternatives provided the alternative practice will achieve the goal of this section. The Director shall not accept for inclusion in a plan any alternative practice as described in this section where two or more agencies listed in 4582.6 of the PRC and 14 CCR § 1037.3 have submitted written comments which lead to the Director's conclusion that the proposed alternative will not meet the goal of this section and the agency(ies) participated in the review of the plan, including an on-the-ground inspection.~~

~~**(x)** Other measures that would effectively achieve the goal set forth in 14 CCR § 916.9(a) [936.9(a), 956.9(a)] may be approved in accordance with 14 CCR 916.6 [936.6, 956.6].~~

~~**(y)**~~**(w)** The provisions of 14 CCR § 916.9 [936.9, 956.9] shall not apply to a plan where there is:

(1) a valid incidental take permit issued by DFG pursuant to Section 2081(b) of the Fish and Game Code that addresses anadromous salmonid protection; or

(2) a federal incidental take statement or incidental take permit that addresses anadromous salmonid protection, for which a consistency determination has been made pursuant to Section 2080.1 of the Fish and Game Code; or

(3) a valid natural community conservation plan approved by DFG under section 2835 of the Fish and Game Code; or

(4) a valid Habitat Conservation Plan; approved under Section 10 of the federal Endangered Species Act of 1973; or

(5) project revisions, guidelines, or take avoidance measures pursuant to a memorandum of understanding or a planning agreement entered into between the plan submitter and DFG in preparation of obtaining a natural community conservation plan.

~~**(z)** This section shall expire on December 31, 2008.~~

Note: Authority cited: Sections 4551, 4562.7 and 21000(g), Public Resources Code. Reference: Sections 751, 4512, 4513, 4551.5, 21000(g), 21001(b) and 21002.1, Public Resources Code; Sections 100, 1243 and 13050(f), Water Code; and Sections 1600 and 5650(c), Fish and Game Code.

Amend 14 CCR § 916.11 . [936.11, 956.11]. Effectiveness and Implementation Monitoring.

(a) Where timber operations will be conducted within a WLPZ, the Director may require a post-harvest evaluation of the effectiveness of the mitigations and practices designed to protect the watercourse(s) or lake(s) as a condition of plan approval. The Director shall require such an evaluation if the necessity for the evaluation is supported by substantial evidence in the record. This evidence may include, but is not limited to, 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 windthrow. The design and implementation of the evaluation shall be done in consultation with the Director, the RWQCB or DFG, and THP submitter, and the sufficiency of the information requested by the Director shall be judged in light of reasonableness and practicality. The evaluation may utilize procedures including, but not limited, to:

(1) Procedures for effectiveness and implementation monitoring,
(2) Existing landowner monitoring programs, or
(3) Photographic monitoring

~~**(b)** This section shall expire on December 31, 2008.~~

Note: Authority cited: Sections 4551, 4562.7 and 21000(g), Public Resources Code. Reference: Sections 751, 4512, 4513, 4551.5, 21000(g), 21001(b) and 21002.1, Public Resources Code; Sections 100, 1243 and 13050(f), Water Code; and Sections 1600 and 5650(c), Fish and Game Code.

Amend 14 CCR § 916.12. [936.12, 956.12] Section 303(d) Listed Watersheds.

For any planning watershed in which timber operations could contribute to the pollutants or stressors which have been identified as limiting water quality in a water body listed pursuant to 303(d) Federal Clean Water Act, the following shall apply:

(a) The Department shall, in collaboration with the appropriate RWQCB and SWRCB, prioritize watersheds in which the following will be done: 1) conduct or participate in any further assessment or analysis of the watershed that may be needed, 2) participate in the development of Total Maximum Daily Load (TMDL) problem assessment, source assessment, or load allocations related to timber operations, and 3) if existing rules are deemed not to be sufficient, develop recommendations for watershed-specific silvicultural implementation, enforcement and monitoring practices to be applied by the Department.

(b) The Department shall prepare a report setting forth the Department's findings and recommendations from the activities identified pursuant to (a) above. The report shall be submitted to the Board and the appropriate RWQCB. The report shall be made available to the public upon request and placed on the Boards' website for a 90-day period.

(c) Where the Department has recommended that the adoption of watershed specific rules is needed, the Board shall consider that recommendation as a proposal for rulemaking under the Administrative Procedures Act (Section 11340 et. seq. Gov Code) and shall begin that process within 180 days following receipt of that report.

(d) These watershed specific rules shall be developed in collaboration with the appropriate RWQCB, the landowner(s) or designee with land in the planning watershed, and other persons or groups within the watershed, and may also be incorporated into a TMDL implementation plan.

(e) The watershed specific rules shall remain in effect until the water body has been removed from the 303(d) list, or that the Board finds, after consulting with the appropriate RWQCB, that timber operations are no longer a significant source of the pollutant or stressor that limits water quality in the listed water body.

(f) When assessing cumulative impacts of a proposed project on any portion of a waterbody that is located within or downstream of the proposed timber operation and that is listed as water quality limited under Section 303(d) of the Federal Clean Water Act, the RPF shall assess the degree to which the proposed operations would result in impacts that may combine with existing listed stressors to impair a waterbody's beneficial uses, thereby causing a significant adverse effect on the environment. The plan preparer shall provide feasible mitigation measures to reduce any such impacts from the plan to a level of insignificance, and may provide measures, insofar as feasible, to help attain water quality standards in the listed portion of the waterbody. The Director's evaluation of such impacts and mitigation measures will be done in consultation with the appropriate RWQCB.

~~**(f)** This section shall expire on December 31, 2008.~~

Note: Authority cited: Sections 4551, 4562.7 and 21000(g), Public Resources Code. Reference: Sections 751, 4512, 4513, 4551.5, 21000(g), 21001(b) and 21002.1, Public Resources Code; Sections 100, 1243 and 13050(f), Water Code; and Sections 1600 and 5650(c), Fish and Game Code.

Amend 14 CCR § 923.3.[943.3, and 963.3] Watercourse Crossings.

Watercourse crossing drainage structures on logging roads shall be planned, constructed, reconstructed, and maintained or removed, according to the following standards. Exceptions may be provided through application of Fish and Game Code Sections 1601 and 1603 and shall be included in the THP**.**

(a) The location of all new permanent watercourse crossing drainage structures and temporary crossings located within the WLPZ shall be shown on the THP map. If the structure is a culvert intended for permanent use, the minimum diameter of the culvert shall be specified in the plan. Extra culverts beyond those shown in the THP map may be installed as necessary.

(b) The number of crossings shall be kept to a feasible minimum.

(c) Drainage structures on watercourses that support fish shall allow for unrestricted passage of all life stages of fish that may be present, and shall be fully described in the plan in sufficient clarity and detail to allow evaluation by the review team and the public, provide direction to the LTO for implementation, and provide enforceable standards for the inspector.

(d) When watercourse crossings, other drainage structures, and associated fills are removed the following standards shall apply:

(1) Fills shall be excavated to form a channel that is as that close as feasible to the natural watercourse grade and orientation, and that is wider than the natural channel.

(2) The excavated material and any resulting cut bank shall be sloped back from the channel and stabilized to prevent slumping and to minimize soil erosion. Where needed, this material shall be stabilized by seeding, mulching, rock armoring, or other suitable treatment.

(e) All permanent watercourse crossings that are constructed or reconstructed shall accommodate the estimated 100-year flood flow, including debris and sediment loads.

[OPTIONAL AMENDMENT 30 (adds language in (e)) *Exceptions may be explained and justified in the plan and approved by the Director where existing crossings, located in the same physiographic environment, have remained intact and undamaged following stressing storms.* ***]***

(f) Permanent watercourse crossings and associated fills and approaches shall be constructed or maintained to prevent diversion of stream overflow down the road and to minimize fill erosion should the drainage structure become obstructed. The RPF may propose an exception where explained in the THP and shown on the THP map and justified how the protection provided by the proposed practice is at least equal to the protection provided by the standard rule.

(g) ~~Any~~ All new permanent culverts ~~installed~~ on ~~c~~Class I watercourses, which meet the criteria of ~~c~~Class I waters based on biological characteristics, shall be planned, designed and constructed to allow upstream and downstream passage of fish or listed aquatic species during any life stage and for the natural movement of bedload to form a continuous bed through the culvert ***[OPTIONAL AMENDMENT 31 (deletes language shown in strikeout)***~~*to form a continuous bed through the culvert*~~ ***]*** and shall require an analysis and specifications demonstrating conformance with the intent of this section and subsection.

~~**(h)** The amendments to 14 CCR § 923.3 [943.3, 963.3] that became effective July 1, 2000 shall expire on December 31, 2009.~~

Note: Authority cited: Sections 4551, 4551.5 and 21004, Public Resources Code. Reference: Sections 4512, 4513, 4551, 4551.5, 4562.5 and 4562.7, Public Resources Code; 40 CFR 130.2(q); and California Case Law: Natural Resources Defense Council, Inc. v. Arcata Natl. Corp. (1972) 59 Cal. App. 3d 959, 131 Cal. Rptr. 172.

Amend 14 CCR § 923.9. [943.9, 963.9] Roads and Landings in Watersheds with Listed~~Threatened or Impaired Values~~ Anadromous Salmonids.

In addition to all other district Forest Practice Rules, the following requirements shall apply in any planning watershed with listed ~~threatened or Impaired Values~~ anadromous salmonids:

(a) Where logging road or landing construction or reconstruction is proposed, the plan shall state the location of, and specifications for, logging road and landing abandonment or other mitigation measures to minimize the adverse effects of long-term site occupancy of the road system within the watershed.

[*OPTIONAL AMENDMENT 32 (replaces subsection (a))* *Where logging road or landing construction or reconstruction is proposed, the plan shall identify:*

(1) *How the proposed operations will fit into the systematic layout pattern.*

(2) *Offsetting mitigation measures, including but not limited to, abandonment of logging roads and landings, needed to minimize potential adverse impacts to watersheds from the road system.* **]**

(b) Unless prohibited by existing contracts with the U.S.D.A. Forest Service or other federal agency, new and reconstructed logging roads shall be no wider than a single-lane compatible with the largest type of equipment specified for use on the road, with adequate turnouts provided as required for safety. The maximum width of these roads shall be specified in the plan. These roads shall be outsloped where feasible and drained with water breaks or rolling dips (where the road grade is inclined at 7 percent or less), in conformance with other applicable Forest Practice Rules.

(c) The following shall apply on slopes greater than 50% that have access to a watercourse or lake**:**

(1) Specific provisions of construction shall be identified and described for all new roads.

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

(3) ~~Alternatively,~~ Logging roads may be constructed with balanced cuts and fills: ~~if properly engineered, or fills may be removed with the slopes recontoured prior to the winter period.~~

(A) If properly engineered, or.

(B) If fills are removed and the slopes recontoured prior to the winter period.

(d) In addition to the provisions listed under 14 CCR § 923.1~~(e)~~ [943.1~~(e)~~, 963.1~~(e)~~], subsection (e), all permanent or seasonal logging roads with a grade of 15% or greater that

extends 500 continuous feet or more shall have specific erosion control measures stated in the plan.

(e) Where situations exist that elevate risks to the values set forth in 14 CCR § 916.2(a), [936.2~~(a)~~, 956.2~~(a)~~] subsection (a) (e.g., road networks are remote, the landscape is unstable, water conveyance features historically have a high failure rate, culvert fills are large) drainage structures and erosion control features shall be oversized, low maintenance, or reinforced, or they shall be removed before the completion of the timber operation. The method of analysis and the design for crossing protection shall be included in the plan.

[OPTIONAL AMENDMENT 33 (replaces language in (e)) *Where logging road networks are remote or are located where the landscape is unstable, where crossing fills over culverts are large, or where logging road watercourse crossing drainage structures and erosion control features historically have a high failure rate, drainage structures and erosion control features shall be oversized, designed for low maintenance, reinforced, or removed before the completion of the timber operation. The method of analysis and the design for crossing protection shall be included in the plan.* **]**

(f) The provisions of 14 CCR § 916.9 [936.9, 956.9] shall not apply to a plan where there is:

(1) a valid incidental take permit issued by DFG pursuant to Section 2081(b) of the Fish and Game Code that addresses anadromous salmonid protection; or

(2) a federal incidental take statement or incidental take permit that addresses anadromous salmonid protection, for which a consistency determination has been made pursuant to Section 2080.1 of the Fish and Game Code; or

(3) a valid natural community conservation plan approved by DFG under section 2835 of the Fish and Game Code; or

(4) a valid Habitat Conservation Plan; approved under Section 10 of the federal Endangered Species Act of 1973; or

(5) project revisions, guidelines, or take avoidance measures pursuant to a memorandum of understanding or a planning agreement entered into between the plan submitter and DFG in preparation of obtaining a natural community conservation plan.

(g) ~~This section shall expire on December 31, 2009.~~

Note: Authority cited: Sections 4551, 4551.5, 4553, 4562.7 and 21000(g), Public Resources Code. Reference: Sections 751, 4512, 4513, 4551, 4551.5, 4562.5, 4562.7, 21000(g), 21001(b) and 21002.1, Public Resources Code; Sections 100, 1243 and 13050(f), Water Code; Sections 1600 and 5650(c), Fish and Game Code; and Natural Resources Defense Council, Inc. v. Arcata Natl. Corp. (1976) 59 Cal.App. 3d 959, 131 Cal.Rptr. 172.