



November 27, 2017

Attention: Forest Practice  
California Department of Forestry and Fire Protection  
135 Ridgeway Ave,  
Santa Rosa, California 95401  
[santarosapubliccomment@fire.ca.gov](mailto:santarosapubliccomment@fire.ca.gov)

Subject: THP 1-15-042 SON (Gualala Redwoods Inc. "Dogwood" THP)

Dear Forest Practice:

Working on behalf of Friends of the Gualala River, I have reviewed the reissued Dogwood Timber Harvest Plan (THP # 1-15-042 SON) issued by Gualala Redwoods, Inc. as well as the following documents.

- California Department of Forestry and Fire Protection, 2017, California Forest Practice Rules 2017. Prepared for: California Timber Operators and California Registered Professional Foresters, January, 397 p.
- Cafferata, P. et al, 2005, Riparian Protection Committee – Flood prone area considerations in the Coast Redwood Zone. California Department of Forestry and Fire Protection, November, 73p.
- U.S. Environmental Protection Agency Region IX, 2001, Gualala River Total Maximum Daily Load for Sediment. 22p.
- North Coast Regional Water Quality Control Board, 2001, Gualala River Watershed Technical Support Document for Sediment. Prepared by the TMDL Development Team, 138p.

Based on review of these materials, it is my opinion that the Dogwood Timber Harvest Plan (THP) does not comply with the California Forest Practice Rules 2017 (FPR), especially with respect to Article 6 - Water Course and Lake Protection. The THP also does not provide an adequate cumulative impact assessment as required under the FPR and CEQA. The justification for these conclusions is provided as follows.

## 1. The Dogwood THP does not comply with 2017 Forest Practice Rules

### a. THP does not provide adequate explanation and justification for use of logging roads and landings in WLPZ

The majority of silviculture and timber harvest under the THP (87%) will occur in flood prone areas designated as the “Watercourse and Lake Protection Zone” (WLPZ) in the FPR. Because populations of Salmonids present in the Gualala River and its tributaries are in severe decline, coho salmon (*Oncorhynchus kisutch*), and steelhead trout (*O. mykiss*) are listed as threatened under the federal Endangered Species Act (pg. 2, USEPA, 2001). Section 916.9 of the FPR provides regulations for the protection and restoration of the beneficial functions of the WLPZ in watersheds with listed anadromous salmonids. Section 923.1 (b) of the FPR states that no logging roads or landings shall be planned or constructed within a WLPZ except when explained and justified in the THP by the RPF and approved by the Director. Page 101 of the THP provides an explanation and justification for proposed use of the existing main haul road system within the WLPZ, which basically states:

- The existing haul road currently exists and was constructed to avoid steep slopes. Constructing a new road out of the WLPZ would require relocating existing class I, II and III creek crossings, which would have the potential to create major erosion problems.
- The reuse of the existing road system and landings will result in less sediment inputs to the watercourses than any feasible alternatives that have been explored.
- The buffer between the road system, the landings and watercourses are wide, flat and will remain heavily vegetated post-harvest.
- Because of the existence of a flat, heavily vegetated buffer between the road and the watercourses, the chance of migration of soil into any fish bearing watercourse is insignificant.
- Mitigation will consist of watering the road to keep dust levels to a minimum.

The explanation and justification provided in the THP does not present any supporting material that substantiate the stated claims. The Gualala River TMDL states (pg. 13, USEPA, 2001), “Sources of sediment delivery to aquatic habitat include natural erosion processes as well as those influenced by anthropogenic (e.g. human-caused) activities, such as road construction and timber harvest.” It also states, “In general, the higher the road density the higher the overall sediment delivery from roads.” Retaining a haul road in the WLPZ during and after timber harvest will provide a source of elevated sediment delivery to the river.

Subsection (1) of Section 916.9 (v) of the FPR states the following.

*(1) In consideration of the spatial variability of the forest landscape, the RPF may propose site-specific measures or nonstandard operational provisions in place of any of the provisions contained in this section. Site specific plans may be*

*submitted 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].*

Leaving a haul road in the WLPZ will result in sediment loading to the river at rates greater (less favorable) than those if no road existed in the WLPZ. Relocating the haul road out of the WLPZ would result in improved aquatic and riparian conditions, if constructed properly and pursuant to FPR regulations. Moving the road out of the WLPZ would also achieve a primary object for all WLPZs – 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 [(916.9 v (c) (5)].

Section 916.9 (v) of the FPR provides regulations pertaining to the level of information and evaluations necessary to employ nonstandard operational provisions in the THP that deviate from FPR rules, such as the use of logging roads and landings in the WLPZ of the Gualala River and tributaries. One such regulation is for an evaluation of the beneficial functions of the riparian zone as set for in subsection (3) of Section 916.9 (v). Many of the specific assessments required under this evaluation follow the guidelines presented in Cafferata et al (2005) and are listed in the FPR. A complete list of assessments, plans and documentation required under subsections (3), (4), and (5) of Section 916.9 (v) is too long to present here, but is highlighted in Attachment A to this letter. No documentation for the assessments required under Section 916.9 (v) of the FPR are provided in the reissued Dogwood THP. Therefore, the THP should be considered incomplete and in violation of the FPR.

***b. THP does not provide adequate explanation and justification for use of skid trails and heavy equipment in WLPZ***

The Dogwood THP includes the establishment and use of numerous skid trails (a.k.a., tractor roads) within the WLPZ. Sections 916.3 (c) and 916.4 (a) of the FPR state that the timber operator shall not construct and use tractor roads or heavy equipment within a WLPZ, respectively, except when explained and justified in the THP by the RPF and approved by the Director. Page 102 of the THP provides an explanation and justification for using skid trails within the WLPZ, which states that because of the flat topography and presence of berms and elevated ground between most skid trail and watercourse, “*The chance of sediment entering a class I watercourse as a result of the usage of these trails is insignificant.*” However, the THP provides no information to support this claim. The THP also states that planned skid trail alignments will “*reduce*” the impact of heavy equipment on the flood plain and, “*The impact of winching logs will be much less than allowing heavy equipment to go to each log.*” The intent of the FPR restriction on skid trails in the WLPZ is to eliminate potential adverse impacts, not reduce the probability or severity of the impact. Thus, the THP has not provided

any justification that the nonstandard operational provisions will eliminate the potential for adverse impacts on erosion, water quality and riparian corridor conditions.

As discussed above, the level of required analysis, evaluation and documentation required to implement nonstandard operational provisions in the WLPZ (i.e., use of skid trails and heavy equipment) is not provided in the THP as required per Section 916.9 (v) of the FPR. Thus, the THP should be considered incomplete.

***c. THP does not provide adequate explanation and justification for no soil stabilization measures on skid roads***

The THP does not provide any explanation or justification for not using soil stabilization measures on skid roads within the WLPZ on slopes less than 10% as required per Section 923.5 of the FPR (see page 102 of THP). This is a significant issue as the “*aspect is almost entirely flat except for Unit #1*” within the THP area (see top page 97 of THP), which means there will be minimal, if any, soil stabilization measures installed in THP Units #2 through #24. Section 916.9 (v) of the FRP requires an explanation and justification for the use of nonstandard operation such as the lack of soil stabilization measures as proposed in the THP, yet none is provided. Therefore, the THP should be considered incomplete and in violation of the FPR.

***d. THP does not provide any explanation and justification for use of access roads to water drafting sites.***

The THP indicates the intent to draft water from the active channel of the Gualala River at four sites. Page 33.1 of the THP states, “*Approaches and associated drainage features to drafting locations within a WLPZ or channel zone shall be surfaced with rock or other suitable materials to minimize generation of sediment.*” These actions constitute road building within the WLPZ, which is not permitted as discussed above. The THP does not address water drafting roads let alone provide an explanation and justification for their use and presence in the WLPZ. Therefore, the THP should be considered incomplete and in violation of the FPR.

**2. Dogwood TPH does not provide adequate cumulative impact assessment**

The cumulative impact assessment presented in the THP is deficient for the following reasons.

- a. Characterization of existing hydrologic and water quality conditions is based on dated material and assessments completed on or before 2001. In assessing past site conditions, The FPR requires that past project information be from last 10 years.

- b. There is no synthesis of information into meaningful future conditions. What information is presented takes the form of tables, but there is no analysis or conclusions drawn from that data on how it will affect future conditions.
- c. The USEPA has listed the Gualala River as being impaired due to sediment. The THP refutes this claim based on an analysis of available information, which they characterize as “limited anecdotal evidence.” They contend that data contained in the NCWAP report (1991-2001) supports this conclusion. However, the THP does not provide any further information or justification for this conclusion. By reaching this unsubstantiated conclusion, they are not acknowledging that the watercourses through the THP area are already experiencing significant adverse impacts and any additional contribution of sediment associated with the THP, even if not considered independently adverse, is contributing to an existing cumulative impact. Until the THP proponents can defensibly demonstrate that the watershed is no longer impacted by sediment or the U.S. EPA delists the watershed, the cumulative impact assessment does not comply with FPR requirements. Establishing defensible pre-plan adverse cumulative watershed effects is required under the FPR per Section 916.9 (b), which states:

*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. When the proposed timber operations, in combination with any identified pre-plan watershed effects, will add to significant adverse existing cumulative watershed effects, the plan shall set forth measures to effectively reduce such effects.*

- d. The Watershed Assessment Area is restricted to “Planning Watershed” boundaries as developed by the interagency CalWater group for the resource management and maintenance of common watersheds in California. Planning watersheds are the smallest hierarchy unit of this mapping system and typically range from 5- to 16-square miles in size. Planning Watershed boundaries contain administrative and political boundaries and are not the same as the classic scientific watershed, which is defined as a land and water area that has all surface drainage within its boundaries converging to a single point. This latter definition and standard practice in hydrology acknowledges that hydrologic, geomorphic and water quality conditions on the mainstem Gualala River are influenced by natural and anthropogenic activities in all upstream tributary drainages. In order to effectively capture and characterize conditions and potential sources of cumulative impacts in the THP area, the cumulative impact Watershed Assessment Area used by the RPF must consider THP projects throughout the entire upstream watershed, not just a non-scientific Planning Watershed that contains the timber harvest areas delineated by the RPF in the THP. The Plum THP for instance is adjacent to and just upstream of Dogwood and is being excluded by virtue of it being listed in another planning watershed.

- e. Anticipated impacts on hydrology, geomorphology (sediment) and water quality are based on past and dated trends, not quantification of data that informs future impacts. The cumulative impact assessment is a data-dump of outdated information and does not provide any focused and applicable analysis relevant to identifying and characterizing potential cumulative impacts.
- f. Many conclusions on hydrologic conditions are unsubstantiated and misleading. For example, the cumulative impact assessment assumes that large peak flows rely on “rain on snow” type events, which is nonsensical as the watershed does not experience any snow. The analysis assumes that because there is no snow in the in the watershed, there will be no large peak flows. This sort of logic demonstrates a complete lack of technical aptitude for watershed hydrology.

Please feel free to contact me by phone (415-491-9600) or email ([greg@khe-inc.com](mailto:greg@khe-inc.com)) if you have any questions or would like to discuss this letter further.

Sincerely,



Greg Kamman  
Principal Hydrologist



**ATTACHMENT A**

**Section 916.9 (v) of California Forest Practice Rules 2017  
highlighting required evaluations and documentation  
for use of nonstandard operational provisions.**

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(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.

(8) The harvest of trees or vegetation designated for removal pursuant to 14 CCR § 1052.5 to address Sudden Oak Death that are:

(A) symptomatic of the pathogen that causes Sudden Oak Death and confirmed infected by a certified lab; or

(B) host hardwood trees that could spread the pathogen.

(u) **Salvage logging** - No salvage logging is allowed in a WLPZ without an approved HCP, a PTEIR, an SYP, or an approved plan that contains a section that sets forth objectives, goals, and measurable results for streamside salvage operations.

(1) This section does not apply to emergency operations under 14 CCR § 1052.

### (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 in place of any of the provisions contained in this section. Site specific plans may be submitted 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].

(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. In the event of measures limited in applicability to specific sites, the submitter may instead of an evaluation, obtain written concurrence from DFG prior to plan submittal. RPFs may request a preconsultation for the site specific plan and the Director may agree and request staff from responsible agencies.

(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 appropriately 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.

7. A plan for monitoring consistent with 14 CCR § 916.11 [936.11, 956.11].

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(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 that would be replaced by the measure(s) or provision(s) proposed.

(5) Guidance is provided below for site specific plans for flood prone areas:

(A) 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 CCR § 916.9 [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.

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

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

(D) 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 the goals of 14 CCR § 916.9 [936.9, 956.9], subsection (a).

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.

(E) 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

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affect overflow channels, large wood recruitment, stream shading, riparian microclimate, organic matter input, and terrestrial wildlife habitat.

(F) 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.

(G) 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.

(H) 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.

(I) 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.

(6) Guidance is provided below for site specific plans for fire hazard reduction:

(A) For site specific plans that address WLPZs having conditions where catastrophic, stand replacing wildfire will result in significant adverse effects to salmonid species, riparian habitat or other wildlife species, the site specific plan shall address measure(s) or provision(s) that create fire resilient forests, promote reduced fire intensities, and retain functional habitat following a wildfire. Site specific plans proposed for fuel hazard reduction shall contain information demonstrating the potential for severe fire behavior and likelihood of stand replacing fires. Fuel reduction measure(s) or provision(s) shall be designed to reduce fire behavior to levels appropriate for the region and riparian area. Measure(s) or provision(s) include, but are not limited to, activities that eliminate the vertical and horizontal continuity among all vegetative fuel layers (surface fuels, ladder fuels and crown fuels), focus on reducing surface and ladder fuel hazards, and simultaneously meet goals and objectives of 14 CCR § 916.9 [936.9, 956.9] subsections (a) and (c).

(7) 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 (Ratings and Standards) and Article 11 (Coastal Commission Special Treatment Areas) of Subchapter 4 (Coast Forest District Rules); Article 2 (Ratings and Standards) of Subchapter 5 (Northern Forest District Rules); Article 2 (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 Title 14 of the *[California Code of Regulations]*; or

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

(8) 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 the Department of Fish and Game or 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 agencies participated in the review of the plan, including an on-the-ground inspection.

(9) 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 § 916.6 [936.6, 956.6].

(10) Board staff and the Department shall work with agencies, stakeholders, and appropriate scientific participants (e.g., Monitoring Study Group, Technical Advisory Committee) in a transparent process to: (1) describe and implement two pilot projects, including monitored results, using site-specific or non-standard operational provisions; and (2) provide recommendations to the Board for consideration for

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adoption to provide detailed guidance for the application of site-specific or non-standard operational provisions. The pilot projects and guidance shall address cumulative and planning watershed impacts, and the guidance may address the appropriate standards the site-specific or non-operational provisions shall meet. A report on the progress of the pilot projects and implementation guidance shall be presented to the Board within 18 months of the effective date of this regulation.

(w) Except when expressly required by 14 CCR § 916.9 [936.9, 956.9], subsections (w)(1)-(5) below, the provisions of 14 CCR § 916.9 [936.9, 956.9] shall not apply to a plan that is subject to:

- (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 that addresses anadromous salmonid protection approved by DFG under section 2835 of the Fish and Game Code; or
- (4) a valid Habitat Conservation Plan that addresses anadromous salmonid protection, 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 that addresses anadromous salmonid protection.

### **916.10, 936.10, 956.10 Domestic Water Supply Protection [All Districts]**

(a) When proposed timber operations may threaten to degrade a domestic water supply the Director shall evaluate any mitigations recommended prior to the close of the public comment period (PRC 4582.7) and shall require the adoption of those practices which are feasible and necessary to protect the quality and beneficial use of the supply.

(b) The Director may require a post-harvest evaluation of the effectiveness of the mitigations and practices designed to protect the domestic water supply as a condition of plan approval. The Director shall require an evaluation at the request of the California Regional Water Quality Control Board, or any affected water purveyor, 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 streams or springs. The design and implementation of the evaluation shall be done in consultation with the Director, appropriate RWQCB, and THP submitter, and the sufficiency of the information requested by the Director shall be judged in light of reasonableness and practicality.

### **916.11, 936.11, 956.11 Effectiveness and Implementation Monitoring [All Districts]**

(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

### **916.11.1 and 936.11.1 Monitoring for Adaptive Management in Watersheds with Coho Salmon**

(a) **Goal:** The Board will develop a monitoring and adaptive management program for timber harvesting operations in watersheds with coho salmon. The purpose of the program will be: (i) to determine whether or not the operational Forest Practice Rules and associated hillslope and instream mitigation measures afford a level of