

SECTION III SUPPORT DOCUMENTATION

14 CCR 1034 (gg) General Site Description

This timber harvest plan is located approximately 4 air miles northeast of the town of Gualala in Mendocino County, CA. The THP area is located within the Little North Fork Gualala River watershed. Ground elevations within the plan area vary from around 170 feet to 1230 feet above mean sea level. The plan area has a variable aspect. SCS soils types present within the plan area include:

Map Label	Soil Type
107	Bigriver loamy sand, 0 to 5 percent slopes
135	Dehaven-Hotel complex, 50 to 75 percent slopes
137	Dehaven-Hotel-Irmulco complex, 30 to 50 percent slopes
158	Havensneck sandy loam, 2 to 15 percent slopes
172	Irmulco-Tramway complex, 9 to 30 percent slopes
173	Irmulco-Tramway complex, 30 to 50 percent slopes
188	Ornbaun-Zeni complex, 30 to 50 percent slopes
189	Ornbaun-Zeni complex, 50 to 75 percent slopes

The THP area has a Moderate and High Erosion Hazard Rating.

This area appears to have been heavily harvested in the early 1900's. Harvest of scattered residuals and second growth likely occurred in some areas beginning in the 1960's. Timber site class within the proposed harvest area is considered to be site class II/III and IV. Several age classes of timber are present. The majority of timber proposed for harvest is 40 to 80+years old. Conifer species observed to be present on site include coast redwood (*Sequoia sempervirens*), and Douglas-fir (*Pseudotsuga menziesii*) Bishop pine (*Pinus muricata*), sugar pine (*Pinus lamertiana*), western hemlock (*Tsuga heterophylla*) and grand fir (*Abies grandis*). Hardwood species include, but are not limited to, tan oak (*Lithocarpus densiflorus*), madrone (*Arbutus menziesii*), chinquapin (*Chrysolepis chrysophylla*), willow (*Salix spp*), California bay laurel (*Umbellularia californica*) and big leaf maple (*Acer macrophyllum*). Shrub and forb species include blue blossom (*Ceanothus thyrsiflorus*), coyote brush (*Baccharis pilularis var. consanguinea*), rhododendron (*Rhododendron macrophyllum*), wax Myrtle (*Myrica californica*), evergreen huckleberry (*Vaccinium ovatum*), California honeysuckle (*Lonicera hispidula*), salal (*Gaultheria shallon*), manzanita (*Arctostaphylos spp.*), and poison-oak (*Toxicodendron diversilobum*).

Watercourses associated with the plan area range in size from Little North Fork Gualala River to small Class III watercourses which only flow during heavy rainfall events. Current shade canopy levels adjacent to these streams range from 80% to 90% or higher. A majority of the tributary Class II watercourses typically have moderately steep gradients (>25%), which limit their use to non-fish aquatic species. Large woody debris is present in moderate amounts in most streamside and in-channel areas of Class II and III watercourses. Channels consist primarily of natural soil, bedrock, gravels and large woody debris. Large organic debris is also present in moderate to dense amounts across the THP area.

ANALYSIS OF ALTERNATIVES

As a Certified Regulatory Program under CEQA, CalFire's THP process is exempt from the requirement to prepare Environmental Impact Reports (EIRs); a THP is a "functional equivalent" document. However, like an EIR, a THP must include "a description of the proposed activity with alternatives to the activity, and mitigation measures to minimize any significant adverse effect on the environment of the activity." PRC § 21080.5(d)(3)(A); 14 CCR §§ 15250-15253.

Cal Fire has informed RPFs that they must submit an alternative analysis with proposed THPs and has given RPFs guidance in preparing that analysis, based on the CEQA guidelines that control the alternatives analysis in EIRs. 14 CCR § 15126.6.

The THP process functions to ensure a THP will be designed to avoid significant environmental effects or to mitigate such effects to the point where no significant effects will occur. The THP process is based on the Forest Practice Rules (promulgated by the Board of Forestry), which require a layer and level of analysis not utilized in the typical EIR process, and the requirements of CEQA. 14 Cal. Code Regs. 895 et seq. (The Board of Forestry's rulemaking program – pursuant to which the Forest Practice Rules are promulgated -- is itself a CEQA functional equivalent program, so that the rulemaking file serves as the functional equivalent of an EIR, and ensures that those Rules, if properly implemented, will not result in significant environmental impacts.) The Forest Practice Rules are programmatic prescriptions and best management practices designed to avoid or mitigate significant impacts of timber harvesting, road building and other timber operations that are applied by the Registered Professional Forester (RPF) in preparing a THP. In addition to requiring RPFs to apply these prescriptions in preparing THPs, the Forest Practice Rules require plan submitters to conduct a site-specific analysis of potentially significant individual and cumulative effects that may not have been avoided or mitigated to less-than-significant by application of the prescriptions contained in the Forest Practice Rules alone. The RPF must incorporate feasible measures in the THP to avoid such effects or mitigate to a less-than-significant level. In only the rarest of cases will CalFire adopt a statement of overriding considerations to approve a THP that has any impacts that have not been mitigated to a less-than-significant level.

In preparing this THP, the RPF has applied the highly prescriptive standards of the Forest Practice Rules, including those applicable to watersheds with salmonids. These include the Watercourse and Lake Protection Zone (WLPZ) Rules, special regulations designed to "maintain, protect, and contribute towards the restoration of" water quality and beneficial uses and aquatic and riparian habitat. 14 Cal. Code Regs. 916.2(a). In addition, the THP is subject to the Anadromous Salmonid Protection (ASP) Rules, an even more specialized subset of regulations applicable to logging in watersheds with listed anadromous salmonids to ensure that timber operations are "planned and conducted to protect, maintain, and contribute to restoration of Properly Functioning Salmonid Habitat and listed salmonid Species." 14 Cal. Code Regs. 916.9. In addition, the RPF has adopted additional measures in the plan as necessary to avoid or mitigate to a less-than-significant level potentially significant site-specific individual and cumulative effects identified during THP preparation. Accordingly, the RPF has submitted a THP that already serves CEQA's objective of avoiding environmental effects or reducing them to a less-than-significant level.

Although the THP has been designed through avoidance and mitigation to have less-than-significant environmental effects, the RPF has analyzed alternatives which could avoid or substantially lessen environmental effects that are typically identified in the preparation and review of THPs. The RPF has used the CEQA Guidelines as well as Cal Fire's guidance (dated June 10, 1997) for addressing alternatives in the THP process.

CEQA requires neither any fixed number of alternatives, nor inclusion of every conceivable alternative. 14 CCR 15126.6(a)(c). Further, CEQA does not require the consideration of alternatives whose effect cannot reasonably be ascertained and whose implementation is remote and speculative. Instead, the CEQA guidelines provide that a "reasonable range" of alternatives must be selected for discussion, applying a rule of reason. 14 CCR 15126.6(f). In accordance with CEQA and its guidelines, the alternatives selected for detailed examination in this THP are limited to ones that could avoid or substantially lessen significant effects of the project (if any) and that could feasibly attain most of the basic objectives of the project. Finally, under CEQA, the alternatives considered need only relate to the project as a whole, not to its various parts. This Analysis describes the rationale for selecting the alternatives to be discussed, including an explanation of why some alternatives were considered but not selected for detailed discussion in the THP.

I. PROJECT DESCRIPTION, PURPOSE(S), NEED(S), AND OBJECTIVE(S)

The project is described in Sections I, II, and III of the THP. The Timberland Productivity Act of 1982 restricts the use of lands zoned Timberland Production Zone (TPZ) exclusively to the growing and harvesting of timber and compatible uses; it also establishes a presumption that timber harvesting is expected to and will occur on such lands. All of the lands included in the THP are TPZ lands which have timber production as the primary use.

Purpose(s). The landowner's purposes in undertaking the project are:

- 1) Access, harvest and regenerate the forested area delineated in the THP.
- 2) Maximize sustained production of high quality timber products.
- 3) Maintain a forest products industry in the local community.
- 4) Maintain or improve existing wildlife habitat.
- 5) Maintain or improve existing cold water fisheries.
- 6) To earn an economic return by operating the property, including the plan area, as commercial timberland per its present zoning and intended land use.

Need(s). The needs for the project from the perspective of the landowner are:

- 1) To meet certain fixed costs of ownership including, but not limited to, taxes, insurance and debt service payments on loans, and meeting Maximum Sustained Production (MSP) as required by the Forest Practice Act and the Forest Practice Rules.
- 2) To maintain the flow of high quality timber products to the economy, sustain a forest products industry, and provide a source of employment in the local community.

Log deliveries to the landowner's own mills are being supported in part by transported logs from other counties, and in the past even from other countries (New Zealand), to enable local mills to continue to

operate. Supplying logs from outside the local geographic area is undesirable for many reasons. Transportation impacts to the environment (including air pollution and Green House Gas (GHG) emissions) are greater. Moreover, other states and countries from which logs have to be imported may have far more lenient forestry regulations than California. Supplying local sawmills with logs from local timberlands is a far more efficient use of resources and has less environmental impacts than importing logs from other states and countries. The THP area is part of a 29,000-acre holding owned by Gualala Redwood Timber, LLC (GRT). GRT is part of an integrated group of companies affiliated with Pacific States Industries DBA Redwood Empire Sawmills that processes redwood logs into a variety of finished and landscape material products. GRT and Redwood Empire are owned by a family that has been doing business in Sonoma County for fifty years, and now is in its second generation of family members active in the operations. The founder of the company lives in Sonoma County. Logs generated from this THP create employment for foresters, loggers and truckers who deliver logs to the Redwood Empire Sawmills located in Cloverdale and Asti, California. These sawmills generate products that are sold into local retail yards or are sold to redwood remanufacturing plants in Sonoma County, and each step of this lumber production adds value to the products and creates economic revenue for the company, jobs for local workers and companies, and tax revenues for local communities and for Sonoma County. Businesses that use products generated from the GRT redwood timberlands include Reuser Inc. in Cloverdale (producers of landscape products from redwood bark and shavings), Friedman's Home Improvement, Mead Clark Lumber Company, Burgess Lumber, Healdsburg Lumber, Lowes, NuForest redwood remanufacturing plant, and other local lumber suppliers. Timber yield taxes from this THP will go directly to Mendocino County for maintenance and improvement of infrastructure, roads, and public safety and security services. Additional tax revenues that benefit County residents are generated from sales tax, lumber products assessment tax, and property taxes. The logs harvested from the THP generate income for many ancillary local businesses where the timber and sawmill workers spend their earnings for food, gas, clothing, home maintenance and repairs, and other living necessities. The timber generated on a sustainable basis from this THP and from these lands significantly adds to the well-being of the residents of the Gualala area and to residents and businesses in Sonoma and Mendocino Counties.

Objective(s). The project objectives are:

- 1) To grow and harvest timber in a long-term sustainable manner and reduce dependence on purchasing logs from the open market. The landowner has made significant investments in its milling infrastructure, which needs to remain working in order to recover facility improvement and maintenance costs, while at the same time remain a viable business with the capacity to produce a reasonable profit.
- 2) To plan and implement the timber operation to contribute to restoration of properly functioning salmonid habitat. This entails using the individual tree selection or commercial thinning (from below only) silviculture as prescribed by the Anadromous Salmonid Protection (ASP) Rules within flood prone areas with the goal of increasing the proportion of large trees for large wood recruitment to benefit salmonids. Additional requirements of the ASP Rules are to retain higher basal area of conifers, provide additional shading, develop vertical structural diversity, and support a diversity of plant, shrub, and tree species for nutrient input. The ASP Rules assure protection and enhancement of public trust resources (fisheries, water quality, wildlife).
- 3) To manage the flood prone areas to meet the intent of the ASP Rules, while also maximizing timber

stand growth and production over time for forest products -- i.e., maintain or increase Maximum Sustained Production (MSP).

The project is to be carried out in accordance with the California Forest Practice Act, Forest Practice Rules, and other applicable agency Rules and regulations. Potential impacts are mitigated to less-than-significant levels by the methods prescribed in the Forest Practice Rules, and by inclusion of other site-specific measures identified by the RPF or recommended in the multi-agency, inter-disciplinary, review team process.

II. ALTERNATIVES CONSIDERED IN THE ANALYSIS

The RPF considered seven alternatives for inclusion in the THP:

- 1) The project as proposed.
- 2) No project.
- 3) Alternative harvest approaches.
- 4) Alternative project location.
- 5) Conservation easement or public land purchase.
- 6) Alternative land uses.
- 7) Alternative timing of project.

III. ALTERNATIVES SELECTED FOR DETAILED EXAMINATION

1) Project as Proposed:

The project as proposed will utilize a variety of silvicultural methods including 88 acres of Group Selection, 41 acres of Transition, 37 acres of Seed Tree Removal, 26 acres of Shelterwood Removal and 35 acres of clear-cut silviculture. Utilization of these various silvicultural prescriptions is recognizes variable stand conditions and differing environmentally sensitive resources found across the 227 acre plan area. The plan was developed to meet the purposes, needs and objectives (both economic and environmental) set forth above. Potentially significant impacts on the environment, including to wildlife habitat and cold water fisheries, which could result from harvest operations such as these have been analyzed and avoided or mitigated to insignificance by the practices and measures included in the plan. Forest roads, skid roads, and landings are located to minimize the amount of sediment generation that could impact watercourses. The plan's silvicultural prescriptions are designed to improve forest stocking and health over time, while protecting and restoring salmonid habitat within the watercourse protection zones. The timber harvest will generate income for the company and supply raw materials to local mills. Operations in accordance with the provisions of THP will not result in significant effects to environmental resources.

2) No Project Alternative:

The No Project Alternative on these timberlands, although feasible, would not achieve any of the purposes, needs or objectives set forth above. This alternative would indefinitely delay or preclude the landowner from improving forest growth and health in the THP area. It would neither improve stocking, nor achieve maximum sustained production of forest products. The No Project Alternative would reduce both the local employment base and revenues to the State and Mendocino County generated by the yield taxes. It would not decrease the need for forest products, but could negatively impact the supply. This could potentially be offset by relying on timber harvest from areas outside of California, where significant environmental effects are not required to be mitigated. Although this alternative is clearly inconsistent with the project objectives, the CEQA guidelines nevertheless require that the No Project Alternative be evaluated. In accordance with the CEQA guidelines, the existing conditions have been considered, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans. 14 CCR § 15126.6 (e). The No Project Alternative would avoid potential environmental impacts that might occur in connection with the proposed timber operations. For example, any individual or cumulative impacts on fish and wildlife, water quality, or stand health and vigor would not occur if the THP were not carried out. The No Project Alternative would lead to non-operation on a portion of the ownership that is capable of producing long-term forest values.

The No Project Alternative is inconsistent with the purposes of the project and addresses neither its needs nor objectives. The No Project Alternative is not environmentally superior to the Project as Proposed in the THP. If implemented on this THP, the No Project Alternative would result in significant adverse economic impacts and would slow the implementation of road repairs planned for this area during timber operations.

3) Alternative Harvest Approaches:

This alternative would involve harvesting the THP area in a manner different from that proposed in the THP. Alternatives here could include different silvicultural prescriptions, different yarding methods, and/or reduction in the project footprint/size.

This alternative would involve carrying out the project as proposed, except that a different silvicultural method would be chosen. Silvicultural objectives shall meet the objectives of the FPA (PRC 4512 and 4513). "The RPF shall select systems and alternatives, which achieve maximum sustained production (MSP) of high quality timber products" (14 CCR 913).

a) The Silvicultural Methodology:

Approximately **57 percent** of the plan area will be harvested under uneven aged management systems (group selection and transition silviculture) and long term planning goals for these areas include maintaining uneven aged stands for a variety of reasons including watercourses protection zones and slope stability concerns. Based on this rationale even aged silviculture is not consistent with long-term goals for these areas.

Group Selection: Refer to the table located under Item 14, Section II for units designated for group selection silviculture. These units were chosen for group selection due in part to the proximity and connectivity of the stand to larger watercourses, due to slope stability concerns associated with the underlying geology of the area or timber stand characteristics (species composition, age and vigor).

Transition:

The transition method is used to develop an uneven aged stand from a stand that currently has an unbalanced irregular or even aged structure. The transition method involves the removal of trees individually or in small groups from irregular or even aged stands to create a balanced stand structure and to obtain natural reproduction. The objective of the transition harvest is to create site vacancy thereby promoting a new age class and to allow for continued harvest of timber while the stand is shifted from an even age to uneven aged stand structure.

Clear-cut and plant silviculture:

35 acres disbursed over 4 different areas has been designated for clear-cut and plant silviculture due to the existing stands high levels of western hemlock. These sites are capable of growing redwood and shifting the stands species composition to include more redwood over time is desired. Selection and group selection silviculture was considered for these stands, but low vigor in the existing stand combined excellent results in other nearby even age managed stands makes clear-cut and plant silviculture the preferred method in these areas.

Shelterwood Removal :

26 acres are to be harvested under the Shelterwood Removal silvicultural prescription. These areas have a moderately light overstory and a generally well developed understory resulting from a prior harvest approximately 30 years ago. Removal of mature crop trees at this time will generate timber volume for the local economy and create a site vacancy allowing the conifer understory to continue to develop.

Seed Tree Removal :

37 acres are to be harvested under the Seed Tree Removal silvicultural prescription. These areas have a light overstory and a generally well developed understory resulting from a prior harvest approximately 30 years ago. Removal of mature crop trees at this time will generate timber volume for the local economy and create a site vacancy allowing the conifer understory to continue to develop.

Other Yarding Methods:

Various yarding methods were considered by the RPF during preparation of the THP -- tractor/ground-based, cable (ground and aerial), and helicopter. Site conditions vary greatly across the plan area and based on terrain, road locations and other factors a combination of tractor and cable yarding will be utilized to implement the harvest of timber while minimizing the potential for adverse environmental impacts of which slope stability and sediment production are foremost in this design decision.

Tractor yarding will be used in areas of the project that are favorable. Such areas include gentle slopes and areas above roads where cable yarding would be problematic due to lack of access for a yarder and or poor deflection. The planned harvest has extensive mitigation layered into the fabric of the THP that reduces potential impacts from tractor yarding to a level of insignificance through implementation of all measures contained in the Forest Practice Rules (FPRs) and specified in the THP. In other areas cable skyline yarding is being utilized because it is the least soil disturbing and cost effective method available to harvest timber on long steep slopes. The combination of steeper slopes with roads located higher on hill slopes or ridge tops

allows for uphill cable yarding and avoidance of roads and landings located at the base of slopes where they are more closely associated with the stream system.

Helicopter yarding was not selected primarily due to the increased costs associated with helicopter yarding. Additionally, however, are concerns regarding flight restrictions near Northern Spotted Owls (NSOs) and the requirement for larger landings. Tight restrictions on flying helicopters near known NSO nest sites can create issues when harvesting within ½ mile of these sites. The pace of helicopter yarding requires larger landings than conventional harvesting methods in order to provide safe operating conditions for crews. Helicopter yarding is a high fuel consumption endeavor and would increase the carbon foot print of this project significantly. It is also often advantageous for helicopters to yard logs downhill, again bringing up the need for roads along watercourses. Due to the above stated reasons this yarding method was not selected.

Size Reduction of the Harvest Area:

This is a feasible alternative, but it would not further reduce potential adverse impacts or cumulative effects. With proper implementation of the FPR and site specific THP requirements there should be no measurable project or cumulative impacts to watershed, biological, or soil resources, resulting from the THP as proposed. THPs are valid for five (5) years, with an available two-year extension. There is no measured difference in effects to resources of producing two 100-acre plans or one 200-acre plan over this time frame. Potential cumulative impacts are likely higher on numerous smaller plans because of the need to reopen the appurtenant haul roads every year for the smaller plans, rather than opening them once for the larger plans. In the meantime, the landowner, the agency, and the interested public benefits from the economy of scale afforded by a single plan versus two separate plans. Multiple smaller THPs could also require multiple crossings of local streams which could result in additional short-term impacts to fisheries relative to a one time entry for a larger plan.

4) Alternative Project Location:

This alternative would involve carrying out the harvesting proposed in the THP at a different location on the landowner's property.

Sustainable management of timberlands requires timing harvests to when it is most biologically and economically effective for stand development. Stands are chosen for harvest based on a variety of parameters including age, stocking levels, and current growth rate. Harvest entries are planned ahead of time and areas such as the proposed THP area have been selected for harvest because they are more suitable for harvest at this time, in comparison to other areas of the property which may have been harvested more recently and are re-growing to full site capacity. Adverse impacts of timber operations in this THP area are not greater than impacts that may occur should planned timber operations be carried out at some alternative location on the property.

The landowner purchased the timberland for the sole purpose of managing the property for timber production, while at the same time giving full consideration to protection of other resources and the environment. Each stand is at different stages in growth and production, and each THP area and watershed present different challenges in terms of protecting the resources and the environment. Over the years, each THP involves a further investment in the long-term growth and productivity of the particular timber stands

within the THP area, as well as producing timber products to generate income and finance initiatives to stabilize roads, improve conifer stocking, and enhance fish and wildlife habitat.

Even if the landowner were able to generate income by harvesting elsewhere on the property, the primary objectives of this THP can no more be met under the Alternative Project Location alternative than under the No Project alternative. Commercial timber management needed to properly maintain production from these stands can only occur with a THP. Selection of the Alternative Project Location alternative would essentially mean that these lands and these timber stands would be taken out of production. For that reason, the Alternative Project Location is inconsistent with the primary objectives of this landowner in owning timber lands and is inconsistent with the project area land use zoning (Timberland Production Zone).

CEQA recognizes that, particularly with projects involving natural resources, alternative locations may not be feasible. 14 CCR § 15126.6 (f)(2)(A)(B). Further, the key question in analyzing alternative locations is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion. However, as noted, the lands are zoned Timberland Production Zone and well suited for that use. This property was so zoned (TPZ) when the landowner purchased these timberlands in 2017. As a result, the lands commanded a purchase price commensurate with that zoning designation and its highest and best use; viz., timber production. The landowner is not willing to refrain from lawful and responsible management of its timberlands. Indeed, the landowner must manage those timberlands for Maximum Sustained Production (MSP) (14 CCR § 913.11), as required by the Forest Practice Act and Forest Practice Rules, subject to the highly prescriptive constraints imposed by the Forest Practice Rules, and the WLPZ and ASP Rules in particular. Moreover, by harvesting elsewhere potential impacts associated with this THP would not be avoided, but rather would merely be shifted to another area of the timberlands. Harvesting at other locations would require many of the same measures to avoid or substantially lessen such impacts to less-than-significant levels.

5) Conservation Easement or Public Land Purchase:

This alternative would involve limitations on management activities through public purchase of the subject property or donation or sale of conservation easements. If the property were covered by a conservation easement such that no timber harvesting could be conducted, then any potential impacts associated with this THP could be avoided through this alternative. If the public purchased the property, it is possible that some management of the land for timber could continue, in which case any potential impacts may not be lessened or altogether avoided. Currently many Non-Governmental Organizations or NGOs (e.g. Sempervirens Fund, The Save the Redwoods League, The Conservation Fund, the Redwood Forest Foundation, The Nature Conservancy) own redwood forestlands in California and are managing those lands to restore them, which requires reducing stand density with commercial logging. Redwood National Park is engaged in similar management efforts under the Redwood Rising Initiative, where it is currently harvesting thousands of acres of second growth parklands to speed restoration of redwood forests to an old forest condition.

The analysis of these two project alternatives (Conservation Easement or Public Land Purchase) is combined because each alternative presents the same basic issues. The landowner is unwilling at this time to consider selling or donating any part of the THP area and, consistent with Mendocino County's zoning for

this land, considers its highest and best use to be producing timber under the proposed THP. Land that is zoned Timberland Production Zone (TPZ) includes a significant part of the total value of the property in the timber value, as this zoning designation strictly limits residential, vineyard, commercial development, and other uses. The TPZ zoning also has significant regulatory and tax consequences under California law. Cal. Govt. Code 51110 et seq; Cal. Govt. Code 51140 et seq.; Cal. Rev. & Tax Code 434 et seq. Indeed, TPZ land use is considered “enforceably restricted.” All this makes a sale of the Far North THP area as a non-timber producing use highly speculative. There is a local group called the Gualala River Park Coalition, which has identified the South Fork of the Gualala River as an area it has an interest in turning into a park, but this does not include the North Fork of the Gualala River where this THP is located (<http://gualalariverpark.org/>).

The landowner is optimistic about the future value of this project area as timberland and is presently unwilling to consider selling at current fair market value related only to the present stumpage value. The landowner has an economic interest in the affiliate Redwood Empire Sawmills which generates added revenue from the sale of lumber, and this added value must be added to the stumpage value to arrive at the actual total value of the THP area to the landowner. NGOs typically will use public funds to purchase conservation lands, and those funds are typically justified based on fair market values of land and timber that rely on stumpage values only and do not take into account added values of lumber sales. It would be unlikely for an NGO to obtain an appraised value for the THP area based on current stumpage that is as high as the value that the landowner can generate based on stumpage value plus the added sales value of the redwood lumber from the sawmill. Also, sales of land to NGOs can take years due to the need to conduct multiple appraisals and then access and get approvals for public funding sources, and that delayed timing is inconsistent with the landowner’s need to service debt.

Applying the “rule of reason,” as set forth in 14 CCR §15126.6(f), project alternatives whose implementation is remote and speculative need not be given extensive consideration. Because the Conservation Easement and Public Land Purchase alternatives are remote and speculative, and would not meet any of the primary or most of the secondary project objectives, they were rejected for further consideration.

6) Alternative Land Uses:

The timberlands proposed for harvest are zoned Forest Land (FL) per Mendocino County General Plan and also carry a Timberland Production Zone (TPZ) designation. These zoning designations establish the presumption that timber harvesting is expected to and will occur on such lands as the primary use.

The following information was obtained from the Mendocino County General Plan

Intent: The Forest Lands classification is intended to be applied to lands which are suited for and are appropriately retained for the growing, harvesting and production of timber and timber related products. The classification includes lands eligible to be zoned Timberland Production (TPZ); intermixed smaller parcels and other contiguous lands, the inclusion of which is necessary for the protection and efficient management of timber resource lands.

Principal Permitted Use on Forest Lands Designated Timber Production Zone:

Forest production and processing and associated uses including: one single family dwelling and home occupations.

Conditional Permitted Uses on Forest Lands Designated Timber Production Zone:

Light agriculture; cottage industry; dwelling groups; campgrounds where designated by an * on the Land Use Maps; major impact services and utilities (i.e. power generating facilities, sewage disposal facilities, sanitary landfills and water treatment plants); farm employee housing, farm labor camps; extraction of sand, shale and gravel. Uses determined to be related to and compatible with forestry; conservation, processing and development of natural resources; recreation and utility installations. No use permit shall be granted for areas designated FL in TPZ until a specific finding has been made that the proposed use is compatible with the growing and harvesting of timber and timber products.

While the number of possible uses for any parcel of land zoned FL is not insubstantial, the touchstone for any and all uses that are not strictly timber production is that they do not interfere with or derogate from sustainable management for commercial timber production. The landowner could apply to the Mendocino County Planning Commission for a rezone, initiate the process to subdivide the parcels, and attempt to market and sell individual lots. However, such a scenario is entirely speculative, not only because the landowner only recently purchased the timberlands for the purpose of supplying logs for its associated sawmills, but also because of the difficulty of obtaining the permits and approvals that would be required from County, State and Federal agencies, including the Planning Commission, to rezone and eventually convert the timberlands to a non-timber use. These include, but are not limited to, taking the land out of TPZ zoning, filing for a Timberland Conversion Permit, showing the requisite domestic water supply availability and leach field capacity for human uses, obtaining a Conditional Use Permit or Permits, and complying with CEQA. The County would not likely permit a development in a flood prone area due to the safety hazards associated with flooding. The new, authorized use/development would need to avoid and mitigate possible significant adverse environmental impacts as a condition of a zoning change and of the new use. However, this alternative would likely result in significant adverse environmental impacts when compared to the expected insignificant impacts of the THP. The infrastructure for such development would have to provide for the increased needs of the developed lands. This would likely entail much greater (and permanent) land disturbance than timber harvesting, limiting wildlife habitat and use, and hardening permanent road and parking surfaces that reduce storm water infiltration and flood attenuation. Wastewater disposal would need to be engineered in the flood plain areas, and could lead to detrimental environmental effects, especially in the event of flooding. Land uses that would increase human population would most likely lead to a decrease in native animal populations within the THP area. For these reasons this alternative, although feasible, is highly unlikely to come to fruition unless economic, social, and environmental conditions in Mendocino County change radically.

7) Alternative Timing of the Project:

This alternative would involve carrying out the project as proposed, except at a future time. Delaying the project for a number of years, say 5 to 10 years, was examined as a potential alternative. This alternative would attain many of the landowner's objectives by allowing the landowner to manage the parcel for eventual timber production, even though postponing the operations would delay the Forest Manager/RPF from

maximizing the productivity of the stands in the THP area, as required by the Forest Practice Act and Forest Practice Rules. Such postponement would also delay implementation of the management techniques that will lead to road repairs and other infra-structure repairs that benefit multiple environmental resources.

Altering the timing of operations such that some other area of the property is entered and harvested now so that this area can be entered at a later point in time, would result only in transferring the same concerns and considerations to a different part of the property. Additionally, potential significant adverse impacts of proposed timber operations will not be eliminated, but merely deferred to a later point in time. Accordingly, this alternative was not considered further because it does not result in a reduction in potential impacts.

IV. COMPARISON OF PROJECT ALTERNATIVES

The project as described in the THP is preferred over the project alternatives for the following reasons:

No Project:

The owner of Gualala Redwood Timber LLC (GRT) also owns and operates local sawmills inland from the GRT holdings, and has made significant investments in that milling infrastructure, which needs to remain working in order to recover facility improvement and maintenance costs. The landowner acquired the GRT timberlands for the exclusive purpose of growing and harvesting timber to achieve MSP (as *required* by the Forest Practice Act and Forest Practice Rules) and reducing dependence on purchasing logs in the open market; such purchases result not only in foregone economic benefits for the local community, but also greater environmental impacts. Such adverse impacts include, but are not limited to, the transportation/import externalities (e.g., increased GHG emissions from trucks) and the less stringent environmental regulation of timber harvesting in Oregon, Washington, and all states other than California. This project – which will “locally source” timber -- is one of many needed to allow the landowner to operate a viable business that benefits Mendocino and Sonoma Counties and their North Coast communities and, that, at the same time, provides the revenue needed to continually provide for the stewardship and maintenance of timberlands – and their sustained productivity -- as mandated by the Forest Practice Act and Forest Practice Rules, as well.

Alternative Harvest Approaches:

Other harvest approaches as discussed are neither feasible nor necessary given the THP’s robust impact avoidance and mitigation measures. The RPF has exercised professional judgment and has demonstrated proper justification for the silvicultural prescriptions chosen. Due to varying timber stand conditions and environmental constraints associated with different portions of the harvest area 5 different silvicultural methods are to be used across the plan area. Yarding methods will include both cable yarding and ground based tractor skidding due to variations in terrain across the harvest area. Helicopter yarding was not identified as a preferred alternative due to high cost, elevated GHG impacts associated with high fuel consumption and additional support infra-structure needed to support helicopter logging (oversized landings, etc). The THP review process allows the agencies charged with protecting forestry resources including wildlife and water quality values to modify silviculture, yarding methods, and plan sizes as they determine to

be necessary to protect these resources. The THP review process also allows the public the opportunity to comment on those same aspects of the proposed plan. Other alternative harvest prescriptions were not adopted because the RPF reviewed the plan area extensively and based on site specific conditions, project objectives and existing regulation concludes that the best course of action is to proceed as described in the THP. If after all this plan development other approaches were considered to be superior they would have been adopted and would be forwarded as the preferred alternative.

Alternative Project Location:

Because this THP's potential impacts are being avoided or mitigated to less-than-significant, relocating the project to an alternative location would not avoid possible significant adverse environmental impacts. Not harvesting in this THP area would require operations to occur elsewhere on the property where similar concerns and considerations would exist.

Public Acquisition (conservation easement or public purchase):

This would avoid any potential impacts of this THP (as noted above, any potential impacts of the THP have been mitigated to less-than-significant). However, it is not feasible because the likelihood of either occurring in the near or even distant future is remote and speculative. It is very unlikely that an agreement on purchase price could be reached. The landowner is not a willing seller at this time for the reasons provided in the discussion of the "No Project Alternative," above. Public acquisition is further complicated by the location of the THP area. The haul road associated with the THP adjacent to the Little North Fork is a primary access route for the northern portion of the GRT timberlands in this area. Opening this area to public access would be highly likely to present safety hazards associated with conflicts between public recreational use and operation of logging equipment and log truck traffic.

Alternative Land Uses:

Some of the alternative land uses described above are feasible, but not environmentally superior to the project as described in the THP; indeed, they are environmentally inferior. If implemented, these alternative uses would likely result in significant adverse environmental impacts that exceed any potential impacts of the proposed timber operations as described in the THP. Given the intended use of timberlands zoned TPZ, the proposed project best fits both the intended use for timber production and the landowner's objectives set forth in the THP.

Timber harvesting is the expected and required activity on the parcels that the THP overlays and is compatible with the surrounding land use zoning. The proposed THP is consistent with the Mendocino County General Plan and the current zoning. Because other allowed alternative land use(s) or change(s) in zoning would not meet any of the basic objectives of the landowner, and the environmental impacts from the development activities for those other land uses would exceed any potential impacts of the proposed timber operations as described in the THP, this alternative was rejected.

Alternative Timing:

Though this alternative is feasible, delaying implementation of the project to a later point in time would neither avoid nor mitigate potential significant adverse environmental impacts. Instead, delaying harvesting would simply push any potential environmental impacts into the future. Accordingly, this alternative is

rejected because it is inconsistent with the project objectives of managing these areas on a periodic re-entry basis.

Finding

This THP has been designed to minimize the potential for adverse environmental effects while still producing timber for the local economy and is designed to be consistent with the California Forest Practice Act and other pertinent regulations. The THP as proposed will not result in significant adverse environmental impacts, and it is selected as the preferred project alternative. For the reasons detailed above, selection of a different project alternative is not beneficial and does not serve CEQA's core purpose of avoiding or substantially lessening significant environmental impacts to less-than-significant.

Stand Descriptions & Silvicultural Methods

Timberland site quality in the plan area is a mosaic of Site II, III timberland with minor inclusions of Site IV timberland. This area was heavily cut in the early 1900's with additional harvesting was conducted periodically in the drainage from the 1970's to the present. Numeric stand descriptions specific to the various areas is presented below and are based on inventory data and ocular estimates specific to this area. Please refer to the Cumulative Impacts Assessment maps located in Section IV for additional harvest history information.

Group Selection: In general, proposed group selection areas are comprised predominantly of a coast redwood and Douglas-fir overstory, with a variable component of tanoak found in across the units. Unit A has pockets of Bishop pine and units B, C and D have a component of western hemlock associated with them. The understory, it is predominantly made up of mixed conifer regeneration, along with various species of underbrush including significant amounts of small tanoak and pockets of dense huckleberry. Within the group selection areas, harvest conifers are marked with blue paint.

- For Site II/III Group Selection areas the stocking standard to be met is 14 CCR 913.2(a)(2)(B); At least 80% of the stocked plots must meet the Basal Area stocking standards of 913.2(a)(2)(A) which states 'On Site II and III lands at least 75 square feet per acre of basal area shall be retained.' This standard shall be met immediately upon the completion of timber operations.
Additionally:
- Per 14CCR 913.2(a)(2)(B)(2): Not more than 20% of the stocked plots may meet stocking standards utilizing the standards of 912.7(b)(1) with trees that are at least 10 (ten) years old.
- Per 14CCR 913.2(a)(3): Within any THP, small group clearings under the selection method shall be separated by a logical logging area.

Per 14CCR 913.2(a)(4): Following completion of timber operations (including site preparation) not more than 20 percent of the THP area harvested by this method shall be covered by small group clearings.

Harvest will consist primarily of the removal of individual crop trees, and thinning of young clumps of redwood. Harvest tree selection will be implemented in a manner which improves individual tree spacing and creation of small site vacancies needed to establish a new age class under the uneven age management silvicultural method.

Please refer to the table located in Section II Item 14 for specific acreage and yarding information. Please refer to the Cumulative Impacts Assessment maps located in Section IV for additional prior harvest history information.

Summary of Estimated Stand Conditions for Group Selection Areas		
Species	% Stand Composition by BA	Average BA/AC
redwood	54%	128 Sq. Ft.
Douglas-fir	14%	034 Sq. Ft.
Western hemlock	08%	020 Sq.Ft.
Grand fir	02%	005 Sq.Ft.
Sugar pine	trace	trace
Bishop pine	03%	007 Sq. Ft.
Tanoak	17%	041 Sq. Ft.
Other Hardwoods	02%	006 Sq.ft.
Totals	100%	241 Sq. Ft.

Transition: In general, proposed transition areas are comprised predominantly of a coast redwood, Douglas-fir and western hemlock overstory, with a variable component of tanoak found across these units. The understory, it is predominantly made up of mixed conifer regeneration, along with various species of underbrush including significant amounts of small tanoak and areas of dense huckleberry. Within the transition areas, harvest conifers are marked with blue paint. For Site II/III transition areas the stocking standard to be met is 14 CCR 913.2(a)(2)(A)(2); at least 50 ft² of basal area including 15 ft² basal area of 18 inch DBH or greater shall be retained. Harvest will consist primarily of the removal of individual crop trees as well as defective and less vigorous trees. Harvest tree selection will also be implemented in a manner which improves individual tree spacing and creation of small site vacancies needed to establish a new age class under the uneven age management silvicultural method.

Please refer to the table located in Section II Item 14 for specific acreage and yarding information. Also, please refer to the Cumulative Impacts Assessment maps located in Section IV for additional prior harvest history information.

Summary of Estimated Stand Conditions for Transition Areas		
Species	% Stand Composition by BA	Average BA/AC
redwood	50%	077 Sq. Ft.
Douglas-fir	14%	021 Sq. Ft.
Western hemlock	12%	019 Sq. Ft.
Grand fir	02%	003 Sq. Ft.
Bishop pine	trace	trace
Tanoak	19%	029 Sq. Ft.
Other Hardwoods	03%	004 Sq. Ft.
Totals	100%	153 Sq. Ft.

Clear cut: Approximately 35 acres are planned for clear-cut harvest. Proposed clear-cut areas are generally comprised of a coast redwood, Douglas-fir, western hemlock and tanoak overstory as reported below. Ages of the dominant and co-dominant conifer overstory component average 70+/- years old. A 30+/- year old age class occurs intermittently across the unit as a result of site vacancies created in conjunction with the 1980's era harvest. Retain thrifty conifers <12" DBH unless substantially damaged by timber operations. "Thrifty" for this purpose means substantially free of defect or damage and having a crown ratio of >30 percent. The understory is predominantly made up of black huckleberry, mixed conifer and tanoak regeneration.

Summary of Estimated Stand Conditions for Clear-cut Areas		
Species	% Stand Composition by BA	Average BA/AC
redwood	37%	088 Sq. Ft.
Douglas-fir	24%	057 Sq. Ft.
Western hemlock	20%	047 Sq. Ft.
Grand fir	03%	007 Sq. Ft.
Tanoak	15%	036 Sq. Ft.
Other Hardwoods	01%	003 Sq. Ft.
Totals	100%	238 Sq. Ft.

Clear-cut harvest areas occur in 2 different units as described below and as shown on the THP maps.

Unit	Acres	Harvest Method
B	24	Cable/Tractor
C	11	Cable

For Clear-cut areas, the stocking standard to be met is 14 CCR 912.7(b)(1) as follows: "An area contains an average point count of two hundred (200) per acre on Site I and II lands, one hundred twenty-five (125) on Site III lands, or one hundred (100) on site IV and V lands. The point count to be computed as follows:

(A) Each countable tree [Ref. PRC § 4528(b)] which is not more than four (4) inches d.b.h. counts one (1) point.

(B) Each countable tree over four (4) inches and not more than twelve (12) inches d.b.h. counts two (2) points.

(C) Each countable tree over twelve (12) inches d.b.h. counts as four (4) points.

(D) Root crown sprouts will be counted using the average stump diameter twelve (12) inches above average ground level of the original stump from which the sprouts originate, counting one sprout for each foot of stump diameter to a maximum of six (6) per stump."

This standard shall be met within 5 years of the completion of timber operations.

Seed Tree Removal: Approximately 37 acres are planned for seed tree removal harvest. Proposed seed tree removal areas are generally comprised of a coast redwood, Douglas-fir, western hemlock and tanoak overstory as reported below. Ages of the dominant and co-dominant conifer overstory component average 60+ years old. A 30+/- year old age class occurs intermittently across the unit as a result of site vacancies created in conjunction with the 1980's era harvest. The understory is predominantly made up of black huckleberry, mixed conifer and tanoak regeneration.

Summary of Estimated Stand Conditions for Seed Tree Removal Areas		
Species	% Stand Composition by BA	Average BA/AC
redwood	43%	071 Sq. Ft.
Douglas-fir	16%	026 Sq. Ft.
Western hemlock	12%	020 Sq. Ft.
Tanoak	27%	044 Sq. Ft.
Other Hardwoods	02%	003 Sq. Ft.
Totals	100%	164 Sq. Ft.

Not more than 15 predominant trees per acre may be removed in the seed tree removal step. Not more than 50 sq. ft. of basal area of predominant trees per acre may be removed in the seed tree removal step. Regeneration shall not be harvested under the seed tree method unless the trees are dead, dying or diseased or substantially damaged during Timber Operations.

For Seed Tree Removal areas, the stocking standard to be met is 14 CCR 912.7(b)(1) as follows: "An area contains an average point count of two hundred (200) per acre on Site I and II lands, one hundred twenty-five (125) on Site III lands, or one hundred (100) on site IV and V lands. The point count to be computed as follows:

(A) Each countable tree [Ref. PRC § 4528(b)] which is not more than four (4) inches d.b.h. counts one (1) point.

(B) Each countable tree over four (4) inches and not more than twelve (12) inches d.b.h. counts two (2) points.

(C) Each countable tree over twelve (12) inches d.b.h. counts as four (4) points.

(D) Root crown sprouts will be counted using the average stump diameter twelve (12) inches above average ground level of the original stump from which the sprouts originate, counting one sprout for each foot of stump diameter to a maximum of six (6) per stump."

This standard shall be met immediately upon completion of timber operations.

Shelterwood Removal: Approximately 26 acres are planned for Shelterwood removal harvest.

Shelterwood Removal areas are divided into 2 separate areas (10 and 16 acres) which are greater than 300 feet apart and separated by a logical logging units. Proposed Shelterwood removal areas are generally comprised of a coast redwood, Douglas-fir, western hemlock and tanoak overstory as reported below. Ages of the dominant and co-dominant conifer overstory component average 60+ years old. A 30+/- year old age class occurs intermittently across the unit as a result of site vacancies created in conjunction with the 1980's era harvest. The understory is predominantly made up of black huckleberry, mixed conifer and tanoak regeneration.

Summary of Estimated Stand Conditions for Shelterwood Removal Areas		
Species	% Stand Composition by BA	Average BA/AC
redwood	60%	106 Sq. Ft.
Douglas-fir	16%	029 Sq. Ft.
Western hemlock	09%	016 Sq. Ft.
Grand fir	01%	001 Sq. Ft.
Bishop pine	03%	004 Sq. Ft.
Tanoak	11%	019 Sq. Ft.
Other Hardwoods	trace	trace
Totals	100%	175 Sq. Ft.

Not more than 32 predominant trees per acre may be removed in the shelterwood removal step. Not more than 100 square feet of basal area of predominant trees per acre may be removed in the shelterwood removal step. Regeneration shall not be harvested during the shelterwood removal step unless the trees are dead, dying or diseased or substantially damaged by Timber Operations.

For Shelterwood Removal areas, the stocking standard to be met is 14 CCR 912.7(b)(1) as follows: "An area contains an average point count of two hundred (200) per acre on Site I and II lands, one hundred twenty-five (125) on Site III lands, or one hundred (100) on site IV and V lands. The point count to be computed as follows:

(A) Each countable tree [Ref. PRC § 4528(b)] which is not more than four (4) inches d.b.h. counts one (1) point.

(B) Each countable tree over four (4) inches and not more than twelve (12) inches d.b.h. counts two (2) points.

(C) Each countable tree over twelve (12) inches d.b.h. counts as four (4) points.

(D) Root crown sprouts will be counted using the average stump diameter twelve (12) inches above average ground level of the original stump from which the sprouts originate, counting one sprout for each foot of stump diameter to a maximum of six (6) per stump."

This standard shall be met immediately upon completion of timber operations.

Exception use of existing tractor road on slopes >50% above Class III watercourse

One existing tractor road segment has been flagged for use by the RPF where slopes exceed 50% and where there is little topographic relief between the tractor road and the watercourse below. This tractor road segment is located in Unit C as shown on the THP Map. This tractor road was established 40+ years ago and there is minimal evidence of significant sediment delivery to any watercourse resulting from this use. Impacts are minimized by using only the existing stable tractor road surface with an emphasis on skidding away from watercourses and minimizing overall soil disturbance and tractor road density. Water break spacing along these trail segments shall be no greater than 75 feet. If during use, concentrations of soil or debris is crowded off the outside edge of the tractor road it will be pulled back onto the skid trail surface at the completion of operations. The surface of the tractor road will be mulched with slash at the completion of operations. No new tractor road construction will occur in this area. Cable yarding was determined not to be a preferred alternative in this location due to difficulty in routing of a road upslope of this location for effective cable access.

Road and landing construction on unstable soils or slide prone areas

Explanation: The DMG landslide map for this area identifies a dormant deep-seated slide which overlaps a broad topographic bench where a yarder need to sit in order to cable yard timber on steep slopes below. New road and landings are planned for use on this topographic bench. Slopes on this bench are <20%.

This road and landing is needed to convert lower slopes from ground based skidding to cable yarding. With respect to slope stability the roads as designed will have substantially less potential for adverse slope stability consequences than the ground based tractor yarding systems they are designed to replace.

Justification: 14CCR923 directs us to minimize new road construction and utilize existing roads as much as possible. Our view is that the new road construction proposed is necessary to convert areas from ground based to cable yarding harvest methods. We feel strongly that this shift in harvest methodology and the associated changes in road networks are consistent with the underlying tenet that the least damaging feasible alternative methods be used to produce timber. This goal has been carried forward through the planning process of this THP as shown by the harvest designs preference to utilize cable yarding methods on steep slopes and other sensitive areas. Based on the above, operating as proposed is justified and prudent. This activity is not considered to be associated with, or expected to affect, any of the primary limiting factors identified in 14CCR 916.9(a).

Item 26. protection measures for watercourses and wet areas:

This THP complies with the Anadromous Salmonid Protection Rule [Adopted September 9, 2009]

Class I Watercourses:

The Little North Fork Gualala River is a Class I watercourse. Two un-named tributaries extending onto the harvest area are identified as Class I watercourses by the CDFW Class I stream map/model. Steep banks result in a confined channels at the base of the plan area. Flood prone areas were excluded from this THP.

Protection measures for Class I watercourses are as follows:

"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 pre-harvest inspection.

The WLPZ has been identified with Blue/White striped "Watercourse and Lake Protection Zone" flagging hung with Orange flagging.

"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), residual or harvest trees shall be marked, including a base mark below the cut-line within the WLPZ by the RPF, or supervised designee. In watersheds with [listed anadromous salmonids], trees shall be marked in advance of the pre-harvest inspection.

All marking within the WLPZ shall be completed prior to the PHI. No Core Zone trees shall be marked for harvest.

"G" To protect water temperature, filter strip properties, upslope stability, and fish and wildlife values, at least 50% of the overstory and 50% of the understory canopy covering the ground and adjacent waters shall be left in a well distributed multi-storied stand composed of a diversity of species similar to that found before the start of operations. The residual overstory canopy shall be composed of at least 25% of the existing overstory conifers. Species composition may be adjusted consistent with the above standard to meet on-site conditions when agreed to in the THP by the RPF and the Director.

916.9 Protection and Restoration of the Beneficial Functions of the Riparian Zone in Watersheds with Listed Anadromous Salmonids specifies additional restrictions to harvesting in Class I WLPZs as follows:

- The enforceable standard for shade canopy retention for Class I watercourses with a confined channel is:
 - Core Zone, within 30 feet of the watercourse transition line, no timber operations except for those listed in {14 CCR 916.9(e)(1)(A)-(F)}. **No timber operations are proposed within any channel zone of a Class I except potentially for work at map points, watercourse crossings and full suspension cable yarding when necessary to transport logs through the channel zone as allowed pursuant to {14 CCR 916.9(e)(1)(A)-(F)}.**
 - Inner Zone, 70 feet wide from the core zone, maintain a minimum 80% overstory canopy. Harvest trees are marked with blue paint.
- An outer zone is established where clear-cut units are adjacent to Class I WLPZs.
- Adjacent to uneven age silviculture areas, the WLPZ is flagged at a minimum width of 100 feet with blue/white striped "Lake and Watercourse Protection Zone" flagging in addition to solid orange flagging for greater visibility.
- The overstory canopy must be composed of at least 25% overstory conifer canopy post-harvest. If the above noted canopy levels are lacking in any given area timber is not marked for removal in that area, however it may be marked elsewhere in the zone.
- Silvicultural methods are limited to single tree selection.
- WLPZ identification, flagging, and timber marking shall be completed prior to the PHI.
- Pursuant to 14 CCR 916.9(f)(3)(C)5., large trees that are most conducive to recruitment to provide for beneficial functions of riparian zones shall be given priority for retention.

- Pursuant to 14 CCR 916.9(f)(2)(B)4., the thirteen (13) largest dbh conifers (live or dead) on each acre of the area that encompasses the Core and Inner Zones shall be retained. The retained conifers shall be selected from within the THP area that encompasses the Core and Inner A and B Zones.

Compliance with 14 CCR 916.9(c)

14 CCR 916.9(c) states: Any timber operation or silvicultural prescription within any watercourse or lake protection zone shall have protection, maintenance, or restoration of the beneficial uses of water, and properly functioning salmonid habitat and listed aquatic or riparian-associated species as significant objectives.

This THP meets the objectives of 14CCR 916.9(c)(1)(2)(3) and (5) by:

☞ Proposing no operations within 30 feet (Core Zone) of the watercourse or lake transition line except those listed in 14 CCR 916.9(e)(1)(A)-(F). No timber operations are proposed within any channel zone of a Class I except for work at map points (if any), watercourse crossings and full suspension cable yarding when necessary to transport logs through the channel zone as allowed pursuant to {14 CCR 916.9(e)(1)(A)-(F)}.

☞ Proposing that all harvesting in Class I WLPZ shall be under single tree selection silviculture methods.

916.9(f) Class I watercourses:

(1) For Class I watercourses, where fish are always or seasonally present or where fish habitat is restorable, 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, subsection (a) and 916.9, subsection (a).

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

In order to comply with the requirements and objectives of 916.9(f)(1)(A)-(B) watercourses associated with the plan area were evaluated and classified according to the requirements of the Forest Practice Rules. Harvesting adjacent to Class I watercourses is restricted as follows to minimize the potential for adverse impacts. Class I watercourses are located as shown on the THP maps.

- The enforceable standard for shade canopy retention for Class I watercourses with a confined channel is:
 - Core Zone, within 30 feet of the watercourse transition line, no timber operations except for those listed in {14 CCR 916.9(e)(1)(A)-(F)}. **No timber operations are proposed within any channel zone of a Class I except potentially for work at map points, watercourse crossings and full suspension cable yarding when necessary to transport logs through the channel zone as allowed pursuant to {14 CCR 916.9(e)(1)(A)-(F)}.**
 - Inner Zone, 70 feet wide from the core zone, maintain a minimum 80% overstory canopy. Harvest trees are marked with blue paint.
 - The outer zone is not applicable to this harvest area as harvesting adjacent to Class I watercourses is limited to uneven age silvicultural practices.
- Adjacent to uneven age silviculture areas, the WLPZ is flagged at a minimum width of 100 feet with blue/white striped "Lake and Watercourse Protection Zone" flagging in addition to solid orange flagging for greater visibility.
- The overstory canopy must be composed of at least 25% overstory conifer canopy post-harvest. If the above noted canopy levels are lacking in any given area timber is not marked for removal in that area, however it may be marked elsewhere in the zone.
- Silvicultural methods are limited to commercial thinning or single tree selection.

- WLPZ identification, flagging, and timber marking shall be completed prior to the PHI.
- Pursuant to 14 CCR 916.9(f)(3)(C)5., large trees that are most conducive to recruitment to provide for beneficial functions of riparian zones shall be given priority for retention.
- Pursuant to 14 CCR 916.9(f)(2)(B)4., the thirteen (13) largest dbh conifers (live or dead) on each acre of the area that encompasses the Core and Inner Zones shall be retained. The retained conifers shall be selected from within the THP area that encompasses the Core and Inner A and B Zones.

Enforceable protection measures for Class I watercourses are contained in Section II.

Determining the Class II watercourse Type:

See the following language regarding class II-L determination from 14CCR 916.9 subsection (g)(1)

(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. Class II-S watercourses are those classified as Class II watercourses pursuant to 14 CCR § 916.5 [936.5, 956.5], but do not possess the characteristics of a Class II-L watercourse.

(A) A Class II-L watercourse is defined as a Class II watercourse having either of the following characteristics:

1. A contributing drainage area of ≥ 100 acres in the Coast Forest District, or ≥ 150 acres for the Northern and Southern Forest Districts, as measured from the confluence of the receiving Class I watercourse.

2. An average active channel width of five feet (5 ft.) or greater near the confluence with the receiving Class I watercourse. Where field measurements are necessary to make this determination, active channel width measurements shall be taken at approximately fifty foot (50 ft.) intervals beginning at the point where the Class II watercourse intersects the Class I WLPZ boundary and moving up the Class II watercourse for a distance of approximately two-hundred feet (200 ft.) The combined average of these five (5) measurements shall be used to establish the average active channel width. Measurement points may be adjusted based upon site-specific conditions, and should occur at riffle locations and outside the influence of watercourse crossings to the extent feasible.

(B) All Class II-L watercourses shall incorporate requirements stated in 14 CCR § 916.9, subsection (g)(2) for a distance of one-thousand feet (1,000 ft.), or total length of Class II, whichever is less, as measured from the confluence with a Class I watercourse. The RPF shall include the mapped location of Class II-L watercourse segments receiving protections pursuant to 14 CCR § 916.9, subsection (g)(2) in the plan area. Where such Class II-L watercourses branch prior to the end of the one-thousand foot (1,000 ft.) protection distance, the branch that meets or exceeds the drainage area standards of 14 CCR § 916.9, subsection (g)(1)(A) shall receive the remainder of the one-thousand foot (1,000 ft.) protection distance. If two or more branches meet or exceed the drainage area standards of 14 CCR § 916.9, subsection (g)(1)(A)1., then the remainder of the one-thousand foot (1,000 ft.) protection distance shall be applied to all branches exceeding the standard. If no individual branch exceeds the drainage area standards of 14 CCR § 916.9, subsection (g)(1)(A)1., then the single branch with the largest drainage area shall receive the remainder of the one-thousand foot (1,000 ft.) protection distance.

Below is a table indicating the RPF's Class II-L/S determination process. Due to the fact that the watercourse receives Class II-S protection beyond 1000 feet from the confluence with the Class I, regardless of L or S determination, only the watercourses that are adjacent to or that run through the THP units within 1000 feet of the Class I/II transition were evaluated. The evaluated watercourses are listed in the table below. Please refer to the map on the following page which identifies the location of the itemized Class II channel segments.

Class II Watercourse Determination

Watercourse #	Watershed \geq 100 acres?	Average Active Channel width \geq 5'?	Class II L or S?
1	59+/- ac	No	Class II-S
2	108+/- ac.	No	Class II-L
3	41+/- ac.	No	Class II-S
4	37+/- ac.	No	Class II-S
5	67 +/- ac.	No	Class II-S
6	9 +/- ac.	No	Class II-S
7	31 +/- ac.	No	Class II-S
8	57 +/- ac.	No	Class II-S

NOTE: The Class II-L watercourses are symbolized on the THP maps for the first 1,000 feet of length from the Class I/II transition. These watercourses receive Class II-L protection for the first 1,000 feet from the Class I/II transition point.

Class II watercourses:

Protection measures for the LTO to follow are contained in THP Section II. Pursuant to 14 CCR 916.4(b) the 'basic protection measures shall be determined from Table I 14 CCR 916.5, and shall be stated in the plan'. Note that in many instances the protection measures in Section II provide greater protections than the basic protections.

Protection measures for Class II watercourses are as follows:

"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 listed anadromous salmonids, on the ground identification of the WLPZ shall be completed prior to the pre-harvest inspection.

The WLPZ has been identified prior to the PHI, and is flagged with Blue/White striped "Watercourse and Lake Protection Zone" flagging hung with Red flagging.

"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. In watersheds with listed anadromous salmonids, trees shall be marked in advance of the pre-harvest inspection.

All marking within the WLPZ shall be completed prior to the PHI. No Core Zone trees shall be marked for harvest.

"I" To protect water temperature, filter strip properties, upslope stability, and fish and wildlife values, at least 50% of the total canopy covering the ground shall be left in a well distributed multi-storied stand configuration composed of a diversity of species similar to that found before the start of operations. The residual overstory canopy shall be composed of at least 25% of the existing overstory conifers. Due to variability in Class II watercourses these percentages and species composition may be adjusted to meet on-site conditions when agreed to by the RPF and the Director in the THP.

916.9 *Protection and Restoration of the Beneficial Functions of the Riparian Zone in Watersheds with Listed Anadromous Salmonids* specifies additional restrictions to harvesting in Class II WLPZs as follows:

WLPZ protection practices to be implemented and the enforceable standard for shade canopy retention for Class II-S watercourses and Class II-L watercourses >1000 feet upstream of a Class I / Class II transition point are as follows:

- Core Zone is 15 feet from the watercourse transition line, no timber harvesting is proposed in the core zone.
- Inner Zone is variable width and slope dependent. The Inner Zone width ranges from 35 to 85 feet from the landward edge of the core zone.
- The WLPZ is flagged at a slope dependent width of 50, 75 or 100 feet with blue/white striped "Lake and Watercourse Protection Zone" flagging in addition to solid red flagging for greater visibility.
- The overstory canopy must be composed of at least 25% overstory conifer canopy post-harvest. If the above noted canopy levels are lacking in any given area timber is not marked for removal in that area, however it may be marked elsewhere in the zone.
- WLPZ identification, flagging, and timber marking shall be completed prior to the PHI.

WLPZ protection practices to be implemented and the enforceable standard for shade canopy retention for Class II-L watercourses within 1000 feet of a receiving Class I watercourse are as follows:

- The enforceable standard for shade canopy retention for Class II-L watercourses is:
 - Core Zone, within 30 feet of the watercourse transition line, no timber operations except for those listed in {14 CCR 916.9(e)(1)(A)-(F)}. No timber operations are proposed within any channel zone of a Class II except for work at map points, watercourse crossings and full suspension cable yarding when necessary to transport logs through the channel zone as allowed pursuant to {14 CCR 916.9(e)(1)(A)-(F)}.
 - Inner Zone a minimum 80% overstory canopy shall be retained within 70 feet of the Core Zone.
- The WLPZ is flagged at 100 feet with blue/white striped "Lake and Watercourse Protection Zone" flagging in addition to solid red flagging for greater visibility.
- The overstory canopy must be composed of at least 25% overstory conifer canopy post-harvest. If the above noted canopy levels are lacking in any given area timber is not marked for removal in that area, however it may be marked elsewhere in the zone.
- WLPZ identification, flagging, and timber marking shall be completed prior to the PHI.
- Pursuant to 14 CCR 916.9(f)(2)(B)4, the thirteen (13) largest dbh conifers (live or dead) on each acre of the area that encompasses the Core and Inner Zones shall be retained. The retained conifers shall be selected from within the THP area that lies within 100 feet of the watercourse transition line.

Please refer to the Operators Map for the location of stream segments which have Class II-L protection measures.

Compliance with 14 CCR 916.9(c)

14 CCR 916.9(c) states: Any timber operation or silvicultural prescription within any watercourse or lake protection zone shall have protection, maintenance, or restoration of the beneficial uses of water, and properly functioning salmonid habitat and listed aquatic or riparian-associated species as significant objectives.

This THP meets the objectives of 14CCR 916.9(c)(1)(2)(3)(4)(5) and 14 CCR 916.9(g)(2)(A) and (B)1. and 2.by:

☞ Proposing no operations within the 15 foot Core Zone (for Class II-S watercourses) and 30 feet Core Zone (for Class II-L watercourses) of the watercourse or lake transition line except those listed in 14 CCR 916.9(e)(1)(A)-(F). No timber operations are proposed within any channel zone of a Class II except for work at map points, watercourse crossings and full suspension cable yarding when necessary to transport logs through the channel zone as allowed pursuant to {14 CCR 916.9(e)(1)(A)-(F)}.

☞ Proposing that all harvesting in Class II-L and II-S WLPZs shall be under single tree selection silviculture.

Enforceable protection measures for Class II watercourses are contained in Section II.

Protection measures for Class III watercourses are as follows:

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

The centerlines of all Class III watercourses have been flagged in the field by the RPF or his supervised designee, prior to the pre-harvest inspection. The LTO shall be responsible to follow ELZ widths as described in Item 26 (a).

"F" Residual or harvest tree marking within the WLPZ may be stipulated in the THP by the RPF in site-specific cases to ensure retention of filter strip properties or to maintain soil stability of the zone. The RPF shall state in the THP if marking was used in these zones.

Channel trees are not marked for harvest. ELZ trees to be harvested in Group Selection and Transition units are marked with blue paint. ELZ trees to be retained in Variable retention units are marked with orange paint.

"H" At least 50% of the understory vegetation present before the start of operations shall be left living and well distributed within the WLPZ to maintain soil stability. This percentage may be adjusted to meet on-site conditions when agreed to in the THP by the RPF.

The ELZ widths stated below shall serve to prevent disturbance to any vegetation, where present prior to operations, except where operations are proposed within these widths. Broadcast burning is not proposed under this THP.

The following are the minimum requirements for timber operations in Class III watercourses per {916.9(h)}:

- (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 WTL. 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 that show no visible evidence of sediment deposition being transported into the adjacent watercourse 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.
- (3) Retain all pre-existing down wood and debris in the channel zone.
- (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 within the ELZ.
- (7) Retain all trees in the ELZ and channel zone which show visible indicators of providing bank or bed stability, excluding sprouting conifers that do not have boles overlapping the channel zone. Visible indicators of stability include roots that permeate the bank or provide channel grade control.
- (8) Exceptions pursuant to 14 CCR § 916.9, subsections (e)(1)(A)-(F) are permitted in any ELZ and channel zone. **No timber operations are proposed within any channel zone of a Class III except for work at map points, watercourse crossings and full suspension cable yarding when necessary to transport logs through the channel zone as allowed pursuant to {14 CCR 916.9(e)(1)(A)-(F)}.**

Additional specific equipment limitations associated with ELZs are described in Item 21. In addition to the ELZ requirements the following apply to Class III watercourses:

- Soil deposited into Class III watercourses shall be removed prior to the completion of operations or October 15th, whichever comes first, except as noted in the winter operating plan.
- Per 916.4(c)(3) - Slash deposited into Class III watercourses shall be removed or stabilized prior to the completion of operations or October 15th, whichever comes first, except as noted in the winter operating plan. If slash is stabilized it shall be stabilized (such that the debris does not create the potential for diversion of the watercourse or the potential build up of excess sediment in amounts greater than found in the watercourse where there is no logging associated debris).

Protection measures for wet areas are as follows:

For the specific wet area locations please refer to the Operators Maps located with Item 38 of Section II. The wet areas present within the plan area produce, or maintain, water year-round to support hydrophytic vegetation and have significant pool structures or a clean gravely substrate, **or** support aquatic (hydrophytic) vegetation and do not support significant habitat for species which require specific canopy levels or a clean gravely substrate. Based on the on-site conditions and comparison to other protected watercourse classifications, the RPF believes standard Class II protection measures to be the most appropriate form of protection for wet areas. Unless already located in a WLPZ for a Class I or II watercourse, wet areas are provided a 50 foot ELZ where 50% total canopy shall be retained. Within the canopy retention zone the use of heavy equipment is limited to the continued use of existing logging roads and those tractor roads designated with yellow and black "Skid Trail" flagging. Wet areas within a Class III channel zone shall be treated as segments of Class II-S and afforded Class II-S level protection. A 50 foot ELZ shall be maintained above wet areas associated with road prism drainage. ELZs are flagged with red flagging and white with blue polka dots flagging tied together. Harvest trees are marked with blue paint and a corresponding stump mark.

**Fish and Game Code Section 1611 Information has been moved to THP
Section 2**