SECTION III

General Description of Physical Conditions at Plan Site

The harvest area is located in Sonoma County in the Gualala River watershed. The Gualala River flows into the Pacific Ocean at the town of Gualala near the Sonoma and Mendocino County border. The THP covers 342 acres (of which 52 acres are no-cut zones) on the alluvial flats primarily on the east side of South Fork of the Gualala River, along the south side of the main stem of the Gualala River, along the north side of the Wheatfield Fork and Buckeye Creek and along the Big and Little Pepperwood creeks. Elevations within the plan range from approximately 30 feet to 200 feet. Aspect is almost entirely flat except for Unit #1 which has a north aspect. Yarding will be ground based. Soils are Big River Sandy Loam and Dehaven Hotel. Topography is almost entirely flat with a few minor exceptions (eg unit #1 which is moderately steep). EHR is low and moderate except in unit #1 where it is high. Unstable areas are very rare to non-existent except in unit #1.

Coastal Zone Special treatment area –
Unit #1 falls into Coastal Zone Special treatment area for visual impacts and therefore has additional restrictions on silviculture and yarding.

Wild and Scenic River Special Treatment Area- About ½ of an acre of unit #1 is within 200 feet of the Main Stem of the Gualala River which is designated as a Wild and Scenic River for recreation. Silviculture is selection under the same stringent constraints as the flood prone areas in the rest of the plan. Visual, recreational impacts, noise and traffic effects are addressed in the cumulative impacts.

Note –Although the units are numbered to #1 to #24 there is no unit #2, 3, or 4.
Species composition-The deep soils and water availability make for GRT's most productive timber land. Some small areas are not part of the flood prone area (unit #1 and areas along Pepperwood creek and Buckeye Creek). The plan contains almost exclusively 90-100 year old redwood in the flood prone areas except for some areas of bay laurel. Unit #1 contains some Douglas Fir because it is outside of the flood prone areas. The understory is notably absent because of the high canopy closure which ranges between 80 and 100%. Sudden Oak Death may be starting to appear in this area.

Silviculture and Stocking- The present silviculture will be selection but modified by the ASP rules (see table under item 14 for specifics). Because of the ASP rules high standards and other biological considerations 52 acres out of the 342 acres in the THP boundaries will be No-cut zones. Present stocking levels in the flood prone areas are approximately 403 square feet of conifers per acre and 38 square feet of hardwoods. The stocking of conifers is higher the closer to the river ranging from approximately 498 in the core zone to 438 in zone A and 375 in zone B. Stocking in non- flood prone areas (approximately 13% of the plan area) is approximately 200-250. Stocking of conifers and hardwoods ranges from as high as 728 near the river to 401 away from the river. Post harvest stocking of conifers is estimated to be 334 throughout the flood prone area (498 in the core zone, 361 in the A zone, and 300 in the B zone. Hardwoods will add an additional 21 to 200 square feet of basal area depending on the zone but highest in the core zone. Post harvest stocking in the non- flood prone areas will be at least the minimum for their site class or special treatment standards as stated elsewhere. Site class is rated as site I in the flats and site III on the side slopes except for Unit #1 which is rated as site III on the lower slopes and site IV in the upslope areas of the unit. Unit #1 is subject to higher standards than its site class would indicate as part of the Gualala Special Treatment Area.

History- The last entries into this area were fifteen to twenty years ago depending on the area and the silviculture was selection (see table in section IV under past activities for a complete list of past THPS).

Water Drafting Item 26 Section III

The following information is added in order to comply with the ASP rules under section 916.9 (r) (2)

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

Four drafting sites have a previously approved 1600 that is associated with THP 1-10-081SON. The 1600 agreement for that plan stated that the water drafting activities would include more than one THP. These drafting sites will be used for this plan as well. A new 1600 agreement is being prepared for this THP with similar water drafting instructions to 1600-2011-0423-R3. The following information will satisfy the ASP rule requirements regarding water drafting activities. In aggregate, for GRT operation (including Bed Rock's 1600 permit), GRT will use less than 25,000 gallons per day from active channel water holes.

These drafting sites are spread out over a five mile stretch of the South Fork of the Gualala River. The South Fork of the Gualala is contained in the San Andreas Fault in a 100-200 foot wide very low gradient alluvial channel. The alluvium has been estimated to be up to 175 feet deep in the center and tapering toward the edges. The summer wetted channel is approximately 25 feet wide. The substrate is composed exclusively of cobbles, small gravel, sand and silt. The stream banks have a 50% slope and transition onto the alluvial flats that can be up to 1000 feet wide and are 20 or 30 feet higher in elevation. Several seasonal roads cross the Gualala and temporary bridges with gravel abutments are used to span the wetted portion of the channel. In addition, three holes have been dug away from watercourses that collect water and are not close enough to watercourses to affect their flow; these holes can be used for water drafting but are not part of the standard water drafting rules.

Water may be drafted from gravel bar pits in the active channel that are no less than 10 feet from the wetted channel of the Gualala River at four sites. These sites are Twin Bridges, the Powerline Crossing, the Pepperwood Crossing and Switchville. Operational instructions for the LTO regarding active channel water drafting are summarized below.

(B) Provide a map showing proposed water drafting locations:
See map in Section II.

(C) What is the watercourse classification:
This is a class I watercourse.

(D) Describe the drafting parameters including the months the site is proposed for use:
Water will be drafted between May 1 and October 15.

(E) Describe estimated total volume needed per day
A total Volume of up to 25,000 gallons per day may be used; normally, far less is needed. For instance, in 2015 drafting from the channel for all operations occurred over

85 days, and average usage was 2,447 gallons per day. The most water pumped in a day was 12,000 gallons.

(F) Describe estimated maximum instantaneous drafting rate and filling time:
Water drafting would be at a rate of less than 300 gallons per minute, a 4,000 gallon truck will take about 15 minutes to fill.

(G) Disclose other water drafting activities in the same watershed;
Gualala Redwood Timber is currently drafting from the Twin Bridges site for gravel operations under 1600 agreement #1600-2008-0098-3. North Gualala Water Company and Sea Ranch Water Co. get water from the Gualala River watershed via wells. The North Gualala Water Company wells are in the North Fork Gualala River watershed and would not be affected by this proposal. The Sea Ranch wells are one mile below Twin Bridges and would only be affected by the GRT's Twin Bridges drafting site.

(H) Estimate the drainage area (acres) above the point of diversion;

1. At the twin bridges site-approx. 115,000 acres
2. At the powerline crossing site-approx. 120,000 acres
3. At the pepperwood crossing site-approx. 165,000 acres
4. At the summer crossing site –approx. 190,000 acres

(I) Describe the estimated unimpeded stream flow, pumping rate, and drafting duration.

1. Bypass flows for Class I watercourses shall be provided in volume sufficient to avoid dewatering the watercourse and maintain aquatic life downstream, and shall conform to the following standard unless modified in the 1600 agreement for this THP:
    a) Diversion rate shall not exceed 10 percent of the surface flow, unless modified by the 1600 agreement
    b) Pool volume reduction shall not exceed 10 percent.
    c) Drafting will occur between May 1 and October 15.
2. The likely drafting requirements in the 1600 being drafted for this THP are;
    a) To avoid take of fish, Permittee shall not draft water from the flowing stream channel; instead, all water shall be drafted from pits dug in gravel bars or upland locations. The gravel bar hole shall be no less than 10 feet from the wetted channel. Excavation of the gravel bar hole shall be conducted in isolation from the flowing stream.
    b) Before commencing any water drafting operation, the RPF and the drafting operator shall conduct a pre-operations field review to discuss the water drafting measures in the plan and in the 1600 agreement.
    c) Each of the four drafting sites shall have a downstream pool designated within the wetted channel that is easily observable from the drafting site but as far away as possible. This pool shall be used to determine any flow changes from drafting activities. A water level gauge with at least 0.05 foot increments shall be installed in this pool.

d) A pump test shall be conducted by an RPF at each site prior to commencement of any drafting activities and monthly thereafter. The purpose of this test is to establish if enough flow is present to allow for water drafting without significantly altering flow as measured by the wetted width of the channel. The test shall provide an estimate of the maximum change in water surface elevation as measured at the downstream water level gauge that would result in a change of less than 0.10 foot to the wetted width at each monitoring site.

e) The diversion rate shall not exceed 300 gallons per minute.

f) In aggregate, for GRT operation (including Bed Rock's 1600 permit), GRT will use less than 25,000 gallons per day from active channel water holes.

g) Water truck operators shall be in possession of log books that shall contain the following information, kept current during operations: 1) drafting site location, 2) date, 3) time, 4) pump rate, 5) filling time 6) screen cleaning/inspection notes, 7) pre and post drafting pool water elevation as recorded from the water level gauge. Drafting logbook data shall be submitted to CDFW monthly for each year that drafting operations occur, or sooner upon request.

h) If, during any drafting activity, the water level as read on the water gauge falls below the amount determined to cause a change of 0.10 foot to the wetted width, pumping shall immediately cease and a pump test shall be conducted to determine the maximum rate of diversion that can occur without causing significant reductions as defined by a 0.10 foot change in the wetted width. CDWG shall immediately be notified with the results of the pump test.

(J) Discuss the effects on aquatic habitat downstream from the drafting site(s) of single pumping operations, or multiple pumping operations at the same location, and at other locations in the same watershed;

A hydrological study by O'Connor Inc. dated June 11, 2010 (previously submitted to CDFW) indicates that even at the rate of 25,000 gallons of water per day GRT would be using only 0.05% of the available daily flow and that any downstream effects would be insignificant on fish and wildlife. Drafting logs show that virtually no reduction of pool volume occurs even during periods of low bypass flows because of the large subsurface flow that is available.

Sea Ranch Water Co. pumps from wells during periods of high flows and stores the water in reservoirs.

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

1. GRT has used magnesium chloride in the past as a dust palliative and may do so again.
2. Drafting takes place at sites closest to the roads needing dust abatement, which spreads out the impacts at the 4 separate gravel pits along the South Fork of the

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Gualala River. However, as the O'Connor Report (2010, and response to public comments 2015) indicates, this is not really a concern.

3. Water holes were previously dug, at the request of CDFW and with their approval, far from existing watercourses in order to provide an alternate source for water drafting. These water holes will be used again, and effectively cause less need for water uptake from the gravel pits.

(L) <u>The methods that will be used to measure source stream flow prior to the water drafting operation and the conditions that will trigger stream flow to be measured during the operation.</u>

4. See section (I) 2. Above:
5. Relying on the O'Connor hydrological study and past experience, drafting 25,000 gals per day will not have a significant effect on downstream flow.

ADDED 11/20/15

Item #27a and f Part 1 - WLPZ Road and landings

Description of proposed operation-Because of the expanded WLPZ for Class I watercourses in salmonid watersheds with flood prone areas, (which is over 800 feet wide in places) the main haul road and associated landings that run along the Gualala River enter the WLPZ in many locations. It is necessary to use these facilities.

In order to keep the number of WLPZ skid trails to a minimum much of the plan will be long lined from the existing road system which means that logs will have to be skidded down the road to the nearest landing. In order to keep this skidding to a minimum wide areas along the road may be used to load logs with a heel boom loader or front end loader even when not designated as a landing. These areas do not actual constitute new construction as significant amounts of dirt will not be displaced. Landings that exist at the edge of or inside the WLPZs will also be utilized in order to minimize skidding.

Standard Rule- The standard rule is 923.1 (b) No logging roads or landings shall be planned for construction (i) within 150 feet of the Class I watercourse transition line, (ii) within 100 feet of the Class II watercourse transition line on slopes greater than 30%, (iii) within Class I, II, III, or IV watercourses or lakes, (iv) within a WLPZ, or (v) in marshes, wet meadows, and other wet areas except at prepared crossings and other locations when explained and justified in the THP by the RPF and approved by the director.

Explanation and Justification- Because of the expanded WLPZ widths much of this haul road now falls within the class I WLPZ. This is the main haul road system for the Gualala River and the rest of the Gualala Redwoods property. The road has already been rebuilt in many locations as far from the major watercourses as is feasible without beginning to enter steeper slopes. Any attempts to relocate the road system on these slopes would most likely result in mass movements and would involve the creation of many new class I, II and III crossings that would have the potential of creating 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. In addition, many of the landings that are associated with this road either fall within the WLPZ or partially fall within the WLPZ. Wide spots in the road that are used to load logs may also be used in order to minimize skidding as long as the road is not widened and significant amounts of dirt are not displaced. The buffer between the road system, the landings and the watercourses are wide, flat and will remain heavily vegetated post harvest. Relocating these landings would result in the same potential hazards as mentioned above for relocation of the road system. It would also result in additional exposed and compacted soil and additional loss of growing space.

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- Mitigation will consist of maintaining a well watered road surface so that the dust levels on the road and landings are kept to a minimum.

Item #27a and f Part 2 - W.L.P.Z skid trails

Description of proposed operation-It will be necessary to use skid trails that access the wider portions of the alluvial flats. Now that the entire flood prone area has been designated as WLPZ it is necessary to use skid trails within the WLPZ.

Standard Rule- The standard rule is 916.3 (c) which states that "The timber operator shall not construct or use tractor roads in Class I, II, III or IV watercourses, in the WLPZ, marshes, wet meadows, and other wet areas unless explained and justified in the plan by the RPF, and approved by the Director."

Explanation and Justification- During the last entry into this area the Class I WLPZ was 75 feet wide. This time the Class I WLPZ is as wide as the flood prone area (sometimes over 800 feet wide) therefore the use of some segments of the haul road some landings and most skid trails have become in lieu practices. Since these skid trails are on flat ground soil movement off of them will be minimal and even then it will not travel any significant distance beyond the edges of the skid trails. Earth berms or back tilted topography exists between most of these skid trails and the class I watercourse and the chance of sediment entering a class I watercourse as a result of the usage of these trails is insignificant. The number of flagged skid trails has been kept to a minimum but by limiting access too much it becomes difficult to skid trees without damaging the residual stand and preserving the canopy is an important concern in these areas. The flagged skid trails were located so as to take advantage of existing skid trails, to stay on higher ground and to avoid disrupting the hydrologic function of the flood plain. This avoidance measure will greatly reduce the impact of heavy equipment on the flood plain. It will result in some logs needing to be winched to the skid trail with cables. Although these dragged logs leave a mark they rarely dig into soil. The impact of winching logs will be much less than allowing heavy equipment to go to each log.

Relocating the road system and landings is not feasible nor would it be desirable environmentally if it were feasible.

Mitigation- All of the skid trails are flagged in the plan area. Heavy equipment will be restricted to the flagged skid trails. Any skid trail that is within the WLPZ and traverses a slope greater than 10% or a slope greater than 30% that is within 150 feet of a class I or class II watercourse will be slash packed or straw mulched and seeded to the standards in item 18 and waterbarred. **In order to ensure minimal ground disturbance from ground based yarding, tractors may not drive with their blade lowered, except as needed to move debris. No excavation shall occur on flood prone areas except at watercourse crossings described in section II or as needed to improve drainage or resolve access problems resulting from previous logging operations.**

revised 11/17/15

Item# 27J-

In-lieu practice for skid trail soil stabilization measures located within the WLPZ

Description of proposed operation-WLPZ skid trails and landings that are on slopes under 10% will not require stabilization measures such as straw with grass seed or slashpacking. WLPZ skid trails that are on slopes under 30% that are more than 150 feet from a class I or II watercourse will not require stabilization measures such as straw with grass seed or slashpacking.

Standard Rule- The standard rule is 916.9 (n) which states Within the WLPZ, and within any ELZ or EEZ designated for watercourse or lake protection, treatments to stabilize soils, minimize soil erosion, and prevent the discharge of sediment into watercourses or lakes in amounts deleterious to aquatic species or the quality and beneficial uses of water, or that threaten to violate applicable water quality requirements, shall be described in the plan as follows.
(1) Soil stabilization is required for the following areas:
(A) Areas exceeding 100 contiguous square feet where timber operations have exposed bare soil.

Explanation and Justification- 916.9(n)(7) states that - Where the natural ability of ground cover is inadequate to protect beneficial uses of water by minimizing soil erosion or by filtering sediment, the plan shall specify protection measures to retain and improve the natural ability of the ground cover to filter sediment and minimize soil erosion. Most of the skid trails in this THP are on flat ground and are covered by a thick leaf litter that is replenished annually by the thick overstory canopy. Most landings have a wide buffer of flat ground between them and a watercourse. To require mulching these skid trails and landings would introduce a great deal of non-native material into areas near watercourses without any benefit since soil movement off of these areas is very unlikely. Alternately, to require slash packing these skid trails would require a piece of equipment to grab slash from the surrounding area which is also part of the WLPZ and would result in more soil disturbance than to just leave the skid trails to be covered by natural leaf litter. Also, slash packing would require more equipment movement around the WLPZ resulting in greater soil compaction and disturbance. In this plan the natural ability of the ground exists to adequately protect the beneficial uses of water.

Mitigation- All skid trails in the WLPZ have been flagged and the LTO will only be allowed to use flagged skid trails. Any WLPZ skid trail that traverses a slope greater than 10% or traverses a slope greater than 30% and is within 150 feet of a class I or II watercourse will be slash packed or straw mulched and seeded to the standards in item 18 and waterbarred. Any landing that is on slopes greater than 10% or is within 150 feet of a class I or II watercourse will be slash packed or straw mulched and seeded to the standards in item 18 and waterbarred.

Item# 27J-

In-lieu practice in regards to flagging the WLPZ's for Class II L and S

Description of proposed operation-

1-Class II-L WLPZs will not be flagged where it falls into an area that is a class I core zone or inner A zone.

2- Class II-S WLPZs will not be flagged where it falls into an area that is a class I core zone, inner A zone or inner B zone.

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Standard Rule- The standard rule is 916.5 (e) (B) and table 1 which states that the Class II **"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 preharvest inspection."**

Explanation and Justification- The two exceptions listed above under the proposed operation are being asked for because under exception #1 when a class II-L WLPZ falls into a Class I core zone or inner A zone the standards are already as high or higher than they would be in the class II core zone or inner A zone. The class II-L WLPZ only will be flagged when it falls into a class I B zone or into an area outside the flood prone area of this plan where the standards are lower.

Similarly, in exception #2 above, when a class II S is anywhere inside the Class I flood prone area protection zones the standards are already as high or higher than they would be for the class II S. When the class II S is no longer in the F.P.A. then it will be flagged because now the standards of Class II S are higher.

The justification for this is that #1- the areas that won't be flagged under this exception will automatically receive the required protection or higher and the reduced amount of flagging will help to avoid confusion for the LTO and added cost for the landowner #2- Since all the skid trails in the F.P.A. will be flagged there is no need for the WLPZ flagging to show the LTO where he can and cannot go.

See Silviculture map to see where class II L and S areas are located.

ANALYSIS OF ALTERNATIVES

This Alternatives Analysis has been revised in response to the October 16, 2018 Decision in Friends of the Gualala River v. California Department of Forestry and Fire Protection, Case No. SCV-262241. In its Decision, the Court ruled that the THP satisfied the requirement that it consider a reasonable range of alternatives. Decision at 21. "The alternatives discussed are the required 'no project' alternative, an alternative harvesting approach, a conservation easement or public purchase, alternative location, alternative land use, and alternative timing." Decision at 21. However, the Court ruled that in rejecting these alternatives to the plan as proposed, the THP "fail[ed] to provide any detailed analysis, information, or explanation as to how its conclusions were reached." Decision at 22.

The following Alternatives Analysis explains why those alternatives are rejected.

As a Certified Regulatory Program under CEQA, CalFire's THP process is exempt from the requirement to prepare Environmental Impact Reports (EIRs) and related provisions of CEQA. However, 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. (The Board of Forestry rulemaking program 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 are 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 by application of the prescriptions contained in the Forest Practice Rules alone. The RPF must incorporate feasible measures in the THP to avoid or mitigate such effects. In only the rarest of cases will CalFire adopt a statement of overriding considerations to approve at 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 prescriptive standards of the Forest Practice Rules. In addition, the RPF has adopted additional measures in the plan as necessary to avoid or mitigate 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 or reducing environmental effects 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's principles, the alternatives selected for detailed examination in this THP are limited to ones that could avoid or substantially lessen any 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. See Big Rock Mesas Property Owners Assoc. v. Board of Supervisors, 73 Cal. App. 3d 218, 227 (1977). 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, NEED, AND OBJECTIVE(S)

The project is described in the Sections I, II, and III of the THP. The Timberland Productivity Act of 1982 restricts the use of lands zoned Timberland Production Zone (TPZ) 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. The great majority of lands included in the THP are TPZ lands; a small portion of the THP is zoned by the County for Resource and Rural Development, which has timber production as a primary use.

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.

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 in accordance with 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 in Sonoma County 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 the Dogwood THP, if a lawsuit had not prevented operations in 2018, would have been over $91,000.00 which goes directly to Sonoma County for maintenance and improvement of infrastructure, roads, and public safety and security services. Additional tax revenues that benefit Sonoma 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 County.

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 the 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 and 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 other site-specific measures incorporated into the THP by the RPF and through the recommendations of 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, which includes 278 acres of selection logging, 12 acres of Coastal Zone Special Treatment Area selection logging and 52 acres of no-harvest protected areas (within the THP footprint), meets the purposes, needs and objectives 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 harvest level is very "light" and operations will occur primarily on flat ground with low erosion hazard. 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 needs and objectives set forth above. This alternative would indefinitely delay or prohibit 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 County generated by the yield taxes. It would not decrease the need for forest products, but could impact the supply. This could potentially be offset by relying on timber harvest from areas outside of the jurisdiction of the THP process 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. Because these areas are the most productive areas (Site Class I) on the landowner's holdings, their overall productivity would be reduced. This would place additional pressure to harvest on steeper, more erosive and less productive timberlands within the landowner's holdings.

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 described in the THP. If implemented on this THP, the No Project Alternative would result in significant adverse economic impacts and would slow the recovery of the flood prone stands in reaching the ASP rules' intended goal of a restored forest stand and structure that benefits anadromous salmonids.

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.

Silviculture:

Per the objectives of 14 CCR § 916.9(c) of the FPRs, "[a]ny 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." There is a prescribed 30-foot no cut zone from the top of the watercourse channel vegetation transition zone (top of bank onto the adjoining riparian flat). As stated by 14 CCR § 916.9 (f)(3)(C) for the next 70 to 120 feet, "harvesting prescriptions in inner flood zones (Inner Zone A) should focus on practices that use 'thinning from below' and silvicultural systems for harvesting are limited to the use of commercial thinning or single tree selection" and 80 percent canopy must be retained post-harvest. If an inner Zone B is present (from the end of Inner Zone A to the toe of the slope where it starts to rise off the floodplain) the silvicultural prescription is also limited to commercial thinning and selection and a requirement to increase average trees size [Quadradic Mean Diameter (QMD)] after harvest. The thirteen (13) largest trees per acre must be retained across both Inner Zones A and B. With canopy retention of 80 percent or more in Inner Zone A and canopy retention of 50 percent or more in Inner Zone B, these requirements amount to leaving a majority of the trees in a dominant stand position that are present upon each harvest entry. The intent of these related requirements is to provide for the recruitment of large woody debris to streams, over the long term. As those conditions become more prevalent, intermediate, smaller understory (suppressed trees) and brush will correspondingly decrease (lessening fire risk).

Thus, there are no alternative silvicultural prescriptions for operations conducted in a flood prone area other than an even "lighter" harvest (<20% canopy retention in Inner Zone A and less than 50% canopy retention in Zone B) which would leave even more dominant, co-dominant, intermediate and suppressed trees per acre. However, the volumes removed would be so low that harvest would not be economically justifiable.

Moreover, using an alternative that employs an even lighter harvest than provided for by the ASP rules would hamper the large tree growth that thinning from below promotes. Increasing the size of larger trees by thinning will not only result in large wood recruitment to streams, but also create greater vertical structural diversity and may provide for a diversity of species including hardwoods under the ASP standards. If an even "lighter" harvest were used shade levels would be so high that very little sunlight would penetrate the stand to allow understory hardwoods and other species to grow, and the ASP goal to provide a diversity of species would not be reached. One upslope area (Unit #1) occurs in this plan but this area also has restrictions placed on silviculture and yarding because of its status as a coastal zone special treatment area. Other silvicultural systems such as clearcutting, seed tree removal, shelterwood removal, group selection, rehabilitation, and transition are not available as alternatives for the THP area because of protective restrictions that are placed on operations in Flood Prone Areas as required by the ASP rules and those required by the Coastal Zone Special Treatment Area of Unit #1 (the sole upslope harvest area in the THP).

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. Tractor yarding was chosen based on the flat topography of the harvest areas and the existing access infrastructure (skid trail and roads) that has been used at least once (and up to 3 times) on over 70 percent of the harvest areas since 1975. Mitigations for ground-based yarding required by the FPRs, including the ASP rules, have been incorporated into the plan and ensure no measurable adverse or cumulative effect on watershed resources.

Cable long-lining from the main haul roads is feasible and was considered. This yarding method would entail pulling a cable out from the main road and skidding logs along the ground. This yarding method is inferior to use of tractors, contrary to the misperception of some who commented on the THP. Tractor yarding will involve driving the tractor (or rubber-tired skidder) on pre-flagged stable skid trails to the downed log, lifting one end of the log off the ground, and skidding the log to the road or landing. Based on an assessment of a recent flood prone area THP, operations resulted in very little ground disturbance from tractor skidding and two years after harvest the skid trails were difficult to discern from areas where no skid trails were placed. Cable long-lining from the main haul road, in contrast, will likely create more exposed soils within the flood prone areas because logs would have to be dragged over greater distances. Also, cable long-lining will result in more damage to the residual forest stand from logs rubbing against and/or bouncing off the boles of the residual stand and tearing bark off the trees as logs will need to be pulled in a straight line to existing roads over longer distances than would be the case with tractor skidding.

Skyline cable (aerial) was also considered but was determined to be infeasible without significant new road building on slopes above the flood plain. Because there is an insufficient number of existing roads that parallel the floodplain above and in close proximity to the harvest units, a cable yarder could not reach a majority of the timber on the THP from existing roads. Attempting to use this yarding method would require significant new road construction to gain access to all the yarding points that would allow logs to be lifted off the ground with a cable yarder. As a result, this method would create more potential sources of sediment delivery within each of the watersheds (from the additional road building and soil disturbance) than will tractor yarding. Additionally, aerial cable yarding requires corridors to be cut through the residual stand to allow for stringing the yarding cable. These corridors could result in the creation of openings that could bring the residual canopy below the 80% retention level required in Inner Zone A of the ASP rules. Moreover, aerial cable yarding would be cost-prohibitive due to excessively long reaches required and the

requirement to build a new road and landing system to allow adequate lift of logs that would not significantly damage the residual stand.

Helicopter yarding is feasible. However, it would greatly increase noise levels at the yarding and landing sites. Many residences at The Sea Ranch and around Gualala are within ½ mile to a 1 mile of the harvest areas, and numerous noise complaints would be expected to be received by the forest managers. Helicopters require unusually large landings up to one and a half acres in size for safely delivering and loading logs, which would increase the area affected by soil disturbance within the floodplain and reduce the shade canopy in the vicinity of the landings. Other impacts of helicopter yarding include those to safety of wildlife and their habitats. While most all timber harvesting operations present dangers to those harvesting trees, as well as to those yarding and loading logs, helicopter yarding presents the greatest risk to human health and safety. In addition, many of the dangers of helicopter yarding to people – logs knocking into other trees and their branches while being picked up and carried, logs falling altogether while being carried, and the "blowdown" from helicopters taking off that disturbs the forest canopy and sends debris flying – harm wildlife and their habitats. Moreover, and in any event, at present there are only a few known helicopter firms working in California or within the greater Pacific Northwest that would be available to log and it is very difficult to find helicopter logging contractors that are willing to work on smaller total volume projects such as this one; typically it will take three times the available volume from this THP to interest contractors. In addition, many helicopter firms have stopped logging in favor of other more lucrative lift projects and fire suppression work. As a result, logger availability is becoming more of an issue with this harvest method.

Size Reduction of the Harvest Area:

This is a feasible alternative, but it would not further reduce potential adverse impacts or cumulative effects. As previously noted, the planned harvest activity is "light touch" silviculture with very low impact operations. With proper implementation of the ASP rules there should be no measurable project or cumulative impacts to watershed, biological, or soil resources, regardless of whether the plan was 100 acres or 1000 acres. Management and harvesting of these stands have been on hold for nearly 20 years (since 1999) while the Board of Forestry developed the ASP rules. While harvesting of these redwood stands has been delayed awaiting development of these more protective and restrictive rules timber harvests have had to occur elsewhere on the property. This delay in harvesting the flood prone areas necessitated removing them from the planned sustained yield harvest schedules which were developed back in the late 1990's. Timber harvest plans (THPs) are a 5-year permit with an available 2-year extension. There is no measured difference in effects to resources of producing three 100-acre plans or one 300-acre plan over this time frame. Potential impacts are the same if it is one plan or three. In the meantime, the landowner, the agency, and the interested public benefits from the economy of scale afforded by a single plan versus three separate plans. Furthermore, any reduction in the harvest area would slow the recovery of the flood prone stands in reaching the ASP rules' intended goal of a restored forest stand and structure that benefits anadromous salmonids.

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. Such dislocation of forestry is effectively what has been occurring over the last 19 years during the ASP rule development for harvesting on flood prone areas.

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. In fact, due to the very low impact nature of the harvest in terms of canopy removal and ground disturbance, flood plain harvests are most likely the lightest impact operations on the property. Obviously, the silvicultural prescriptions and operational impact avoidance and mitigation requirements are especially restrictive for timber harvesting in flood prone areas because of the WLPZ and ASP rules, reflecting the relatively more ecologically sensitive character of those areas for impacts to water quality and salmonids. Nonetheless, the point remains that there would be no reduction or "savings" in environmental impacts by carrying out this long-planned harvest elsewhere on the timberlands; the environmental impacts of the THP are less than significant, both in and of itself (i.e., as a "project") and cumulatively. Moreover, and in any event, continued dislocation of timber harvesting not only frustrates proper (indeed, legally required) management of timberlands for MSP, but delays restoration of flood prone areas pursuant to the ASP rules for the benefit of salmonids.

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 improve 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. No commercial timber production can occur without 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 Location is inconsistent with the primary objectives of this landowner in owning timber lands and is inconsistent with the project area land use zoning as Timber Production Zone and Resource and Rural Development.

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. In this case, because the THP is on lands in a flood prone area adjacent to the Gualala River it has potential impacts that would not normally be potential impacts at locations outside of that area. However, because floodplains comprise a high percentage of the landowner's holdings and are the landowner's most productive timberlands, at some point harvesting will occur at these locations. The only way to avoid the potential impacts of harvesting in flood prone areas would be to forgo timber harvesting in any of them. However, as noted, the lands are zoned Timberland Production Zone. They were so zoned when the landowner purchased these timberlands in 2015. 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, including flood prone areas. Moreover, by harvesting elsewhere potential impacts associated with this THP would not be altogether avoided, but would merely be shifted to another area of the timberlands. Some potential impacts would be exacerbated. Harvesting at other locations would require many of the same measures to avoid or substantially lessen such impacts to insignificant 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 them to restore them, which requires reducing stand density with commercial logging. Redwood National Park is engaged in similar management efforts. Given the missions and goals of such NGOs, their obligations to their donors and funders, and their current management approaches, it seems likely that an NGO (or a responsible state or federal agency) that succeeded to the land would also manage it through restoration thinning, which is a similar management system to that proposed in the THP.

The analysis of these two project alternatives is combined because each presents the same basic issues. The landowner is unwilling at this time to consider selling or donating any part of the THP, and finds the highest and best use is producing timber under the proposed THP. Land that is zoned Timber Production Zone (TPZ) and Resources and Rural Development (RRD) includes a significant part of the total value of the property in the timber value as these zoning designations strictly limit residential, vineyard, commercial development, and other uses. A sale of the THP area as a non-timber producing use is highly speculative. 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 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 a 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 access and get approvals for public funding sources, and that delayed timing does not fit the landowner's need to service debt. Another factor affecting a possible conservation sale is that the parcel includes the main haul route on the property that logging trucks and equipment must use to access the remainder of the property. A sale of this area for public use would cause significant conflicts between recreationists and timber harvesting contractors including issues from noise, dust impacts, tree falling hazards, and could also lead to significant traffic safety risks between fast moving loaded logging trucks and users of the public area.

Given the fact that the area is Site Class I (the highest site possible) timber growing ground on the GRT property, and is zoned for timber production as its highest and best use, the landowner intends to implement the harvest of this area as planned and ensure this area remains in timber production.

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 this alternative is remote and speculative, and would not meet any of the primary or most of the secondary project objectives, the conservation easement and public land purchase alternatives were rejected for further consideration.

6) Alternative Land Uses:

The timberlands proposed for harvest are zoned Timberland Production Zone (TPZ) or Resource and Resource Development (RRD) per Sonoma County General Plan. These zoning designations establish the presumption that timber harvesting is expected to and will occur on such lands as the primary use. RRD zoning is the more flexible in terms of land use, but still restricts development of non-timber uses.

The following information was obtained from the Sonoma County General Plan 2020 Land Use Element and Open Space and Resource Conservation Element (both amended by Resolution No. 16-0283 on August 2, 2016) for RRD zoning:

> Purpose: to implement the provisions of the resources and rural development land use category of the General Plan, namely to provide protection of lands needed for commercial timber production, geothermal production, aggregate resources production; lands needed for protection of watershed, fish and wildlife habitat, biotic resources, and for agricultural production activities that are not subject to all of the policies contained in the agricultural resources element of the General Plan. The resources and rural development district is also intended to allow very low density residential development and recreational and visitor-serving uses where compatible with resource use and available public services. The intent is that natural resource areas are to be managed and conserved and that production activities avoid depletion and promote replenishment of renewable resources. (emphases added)

Other permitted uses are:

- Recreational and educational uses, with or without fee, not requiring any permanent improvement of the land or interfering with the primary use (swimming, hunting, fishing, occasional camping, etc.).
- Management of land for watershed, fish and wildlife habitat, fish rearing ponds, hunting and fishing, beekeeping and grazing, where these uses are incidental to the primary use.
- The erection, construction, alteration or maintenance of gas, electric, water or communication generating and transmission facilities, including necessary structures.
- Equipment storage yards incidental to the growing and harvesting of forest products, including parking, repairing and storage of equipment so used. Construction of permanent structures are subject to other constraints.
- The production and harvesting of miscellaneous compatible forest products. Example: Christmas tree farms and greenery.

Other uses permitted but requiring a use permit are:

- Saw mills, planer mills, pulp mills, particleboard plants, log ponds, earth-filled dams and lumberyards,

with associated uses.

- Development and utilization of natural resources with appurtenant structures.
- Aircraft landing facilities incidental to permitted forestry and recreational related uses.
- Permanently located and improved private and public campgrounds, resorts and organized camps.
- Such use which does not significantly detract from the use of the property for, or inhibit, growing and harvesting timber.

While the number of possible uses for any parcel of land zoned RRD is not insubstantial, the touchstone for all uses that are not strictly timber production is that they not interfere with or derogate from sustainable management for commercial timber production. The landowner could apply to the 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 in 2015 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 or RRD 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 majority of the THP area is in the flood zone. 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 diminish the infiltration of stormwater runoff 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 the 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. Such postponement would also delay implementation of the management techniques that will lead to restoration of the flood prone areas for the benefit of salmonids.

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 not have any effect of mitigating or avoiding potential significant adverse or cumulative impacts associated with harvesting the proposed stands. Rather, it might result in lowering the area's mean annual growth and reduce the property's overall growth

to achieving MSP. 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 is inconsistent with the overall intent to maximize sustained productivity of timber stands while meeting the purposes, needs and objectives of the THP.

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 its 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. This project is one of many needed to allow the landowner to operate a viable business and to continually provide for the maintenance of timber property 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 prescription (light touch, thin from below) chosen. The silvicultural prescription selected is already highly restrictive, made all the more so by the retention standards of the WLPZ and ASP rules. An even lesser intensity of harvest would not be financially viable. Other yarding methods were rejected as environmentally inferior. Aerial cable yarding would likely be cost-prohibitive; helicopter yarding would also very costly, present human safety concerns, and could not be contracted due to limited availability and/or the willingness of such companies to take on the work. The THP review process allows the agencies charged with protecting fish and wildlife and water quality to make recommendations about the proposed silviculture, yarding method and plan size. The THP review process also allows the public the opportunity to comment on those same aspects of the proposed plan. In addition to the financial impacts already noted, a lighter harvest than that proposed would not fulfill the intent of the ASP rules to restore habitat for anadromous salmonids by creating a diverse forest structure and promoting the growth of the largest trees. No alternative harvest approaches were shown to be superior or warranted and, therefore, the discussed alternative harvest approaches were rejected.

Alternative Project Location:
Because this THP's potential impacts are being avoided or mitigated to insignificance, relocating the project to an alternative location would not avoid possible significant adverse environmental impacts. Not operating on the THP area would require operations to occur elsewhere on the property where greater impacts would occur because of the reduced silvicultural and resource protection standards applicable outside of flood prone areas. In addition, operating on an alternative location would be less suitable for achieving MSP across the GRT property.

Public Acquisition (conservation easement or public purchase):
This would avoid or mitigate potential significant adverse impacts of this THP. 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 same reasons as provided in the discussion of the "No Project Alternative" above. Public acquisition is further complicated due to the location of the THP area. The haul road associated with the THP is the mainline access route for the bulk of the GRT timberlands. Opening this area to public access would be highly likely to present safety hazards associated with 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 and Sonoma County's RRD zoning, the proposed project fits best both the intended use for timber production and the landowner's objectives set forth in the THP.

Timber harvesting is the expected and preferred activity on the parcels that the THP overlays and is compatible with surrounding land use zoning. The proposed THP is consistent with the General Plan and the current zoning and is also consistent with the intent of the Z'Berg-Nejedly Forest Practice Act of 1973. 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 of those other land uses, 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. Operations elsewhere, if outside of the flood prone areas, will result in further delays to the harvest and planned reentry sequence of these areas. Accordingly, this alternative is rejected because it is inconsistent with the project objectives of managing these areas on a periodic re-entry basis. It would also frustrate management of the GRT timberlands for MSP and restoration of stands in flood prone areas to benefit salmonids.

Finding
Because the THP as proposed follows the restrictive WLPZ and ASP rules for timber harvesting within a flood prone area, it 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 necessary to serve CEQA's core purpose of avoiding or substantially lessening significant environmental impacts.