OFFICIAL RESPONSE TO SIGNIFICANT ENVIRONMENTAL POINTS RAISED DURING THE TIMBER HARVESTING PLAN EVALUATION PROCESS

FROM THE DIRECTOR OF THE CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION (CAL FIRE)

TIMBER HARVESTING PLAN (THP) No:	1-20-00084-SON
SUBMITTER:	Redwood Empire Sawmills
COUNTY:	Sonoma
END OF PUBLIC COMMENT PERIOD:	January 3, 2022
DATE OF RESPONSE AND APPROVAL:	November 17, 2022

The California Department of Forestry and Fire Protection (CAL FIRE) serves as the lead agency in the review of Timber Harvesting Plans. These plans are submitted to CAL FIRE, which directs a multidisciplinary review team of specialists from other governmental agencies to ensure compliance with environmental laws and regulations. As a part of this review process, CAL FIRE accepted and responded to comments, which addressed significant environmental points raised during the evaluation of the plan referenced above. This document is the Director's official response to those significant environmental points, which specifically address this Timber Harvesting Plan. Comments, which were made on like topics, have been grouped together and addressed in a single response. Remarks concerning the validity of the review process for timber operations, questions of law, or topics and concerns so remote or speculative that they could not be reasonably assessed or related to the outcome of a timber harvesting operation, have not been addressed.

Sincerely,

DocuSigned by:
Eric Huff
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ERIC K. HUFF
Staff Chief, Forest Practice
RPF No. 2544

cc: RPF, Unit, File; Timber Owner, Timberland Owner and/or Submitter
CP, CDFW, DPR, & RWB (through https://caltreesplans.resources.ca.gov/caltrees/caltrees.aspx)

PUBLIC NOTIFICATION

To inform the public of this proposed Timber Harvesting Plan (THP) and determine if there were any concerns with the plan the following actions were taken:

- Notification of the receipt of a timber harvesting plan was sent to the adjacent landowner(s).
- Notice of the receipt of the plan was submitted to the county clerk for posting with other environmental notices.
- Notice of the plan was posted at the Department's local office and also at the regional office in Santa Rosa.
- Notice of the receipt of the THP was sent to those organizations and individuals on the Department's list for notification of plans in the county.
- A “Notice of the Intent to Harvest Timber” was posted near the plan site.

THP REVIEW PROCESS

The laws and regulations that govern the Timber Harvesting Plan review process are found in Statute law in the form of the Forest Practice Act which is contained in the Public Resources Code (PRC) and Administrative law in the rules of the Board of Forestry and Fire Protection (the Forest Practice Rules) which are contained in the California Code of Regulations (CCR).

The Forest Practice Rules are lengthy in scope and detail and provide explicit instructions for permissible and prohibited actions that govern the conduct of timber operations in the field. The major categories covered by the rules include:

- Timber Harvesting Plan contents and the Timber Harvesting Plan review process
- Silvicultural methods
- Harvesting practices and erosion control
- Site preparation
- Watercourse and lake protection
- Hazard reduction
- Fire protection
- Forest insect and disease protection practices
- Coastal Commission Special Treatment Areas
- Use, construction and maintenance of logging roads and landings
- County-specific rules

When a THP is submitted to the Department, it undergoes a multidisciplinary review consisting of several steps. In addition to CAL FIRE, the Review Team members include representatives of the California Department of Fish and Wildlife (CDFW); the appropriate Regional Water Quality Control Board (RWQCB or RWB); California Geological Survey (CGS); the Department of Parks and Recreation (DPR); the appropriate County Planning office; and if within their jurisdiction, the Coastal Commission (CC) (14 CCR §1037.5(a)). Once submitted the Director determines if the plan is accurate, complete, and in proper order, and if so, files the plan (14CCR §1037). In addition, the Review Team determines whether a Pre Harvest Inspection (PHI) is necessary, and what areas of concern are to be examined during the inspection (14 CCR §1037.5(g)(1)).

If the plan is accepted for filing, and a PHI is determined to be needed, a field review is conducted to evaluate the adequacy of the THP. All agency personnel who comprise the multidisciplinary

Review Team are invited to attend the PHI as well as other experts and agency personnel whom the Department may request. During this field review, additional mitigation and/or recommendations may be formulated to provide greater environmental protection. These recommendations are forwarded to the RPF along with the Review Team member's PHI Report. The RPF will respond to the recommendations made and forward these to the Region office and Second Review Team Chair.

A Second Review Team meeting is held where members of the multidisciplinary Review Team meet to review all the information in the plan, and develop a recommendation for the Director (14 CCR §1037.5(g)(2)). Prior to and/or during this meeting they examine all field inspection reports, consider comments raised by the public, and discuss any additional recommendations or changes needed relative to the proposed THP. These recommendations are forwarded to the RPF. If there are additional recommendations, the RPF will respond to each recommendation, and forward their responses to the regional office in Santa Rosa.

The representative of the Director of the Department reviews all documents associated with the proposed THP, including all mitigation measures and plan provisions, written correspondence from the public and other reviewing agencies, recommendations of the multidisciplinary Review Team, and the RPF's responses to questions and recommendations made during the review period. Following consideration of this material, a decision is made to approve or deny a THP.

If a THP is approved, logging may commence. The THP is valid for up to five years, and may be extended under special circumstances for a maximum of two more years, for a total of seven years.

Prior to commencing logging operations, the Registered Professional Forester must meet with the licensed timber operator (LTO) to discuss the THP (CCR §1035.2); a CAL FIRE representative may attend this meeting. The Department makes periodic field inspections to check for THP and rule compliance. The number of inspections depends upon the plan size, duration, complexity, and the potential for adverse impacts. Inspections include but are not limited to inspections during operations pursuant to Public Resources Code (PRC) section 4604, inspections of completed work pursuant to PRC section 4586, erosion control monitoring as per PRC section 4585(a), and stocking inspection as per PRC section 4588.

The contents of the THP, the Forest Practice Act, and rules, provide the criteria which CAL FIRE inspectors use to determine compliance. While the Department cannot guarantee that there will be no violations, it is the Department's policy to vigorously pursue the prompt and positive enforcement of the Forest Practice Act, the Forest Practice Rules, related laws and regulations, and environmental protection measures that apply to timber operations on non-federal land in California. This enforcement is directed primarily at preventing forest practice violations, and secondarily at prompt and adequate correction of violations when they occur.

The general means of enforcement of the Forest Practice Act, the rules, and other related regulations range from the use of violation notices, which require corrective action, to criminal proceedings through the court system. Timber operator and Registered Professional Forester licensing action may also be pursued. Most forest practice violations are correctable and the Department's enforcement program assures correction. Where non-correctable violations occur, criminal action is usually taken. Depending on the outcome of the case and the court in which the case is heard, some sort of environmental corrective work is usually done. This is intended to offset non-correctable adverse impacts.

Once harvesting operations are finished, a completion report must be submitted certifying that the area meets the requirements of the rules. CAL FIRE inspects the area to verify that all aspects of the applicable rules and regulations have been followed, including erosion control work. Depending on the silvicultural system used, the stocking standards of the rules must be met immediately or in certain cases within five years. A stocking report must be filed to certify that the requirements have been met.

FOREST PRACTICE TERMS

CAL FIRE	Calif. Dept. of Forestry & Fire Protection	NCRWQCB	North Coast Regional Water Quality Control Board
CCR	California Code of Regulations	NSO	Northern Spotted Owl
CDFW	California Department of Fish and Wildlife	PHI	Pre-Harvest Inspection
CEQA	California Environmental Quality Act	PRC	Public Resources Code
CGS	California Geological Survey	RPF	Registered Professional Forester
DBH/dbh	Diameter Breast Height	RRCSD	Russian River Community Service District
EHR	Erosion Hazard Rating	STA	Special Treatment Area
FPA	Flood Prone Area	THP	Timber Harvesting Plan
FPR's	Forest Practice Rules	WLPZ	Watercourse & Lake Protection Zone
LTO	Licensed Timber Operator	TPZ	Timberland Production Zone

[sic] Word used verbatim as originally printed in another document. May indicate a misspelling or incorrect word usage

BACKGROUND

THP #1-20-00084-SON proposes to harvest 224 acres using Selection, Group Selection, Transition, and Special Treatment Area Prescription silvicultural methods (Please note that the areas designated as Special Treatment Area prescription include areas that will be harvested using Selection, Group Selection, and Transition silviculture. For instance, areas designated as a Special Treatment Area may also include Selection silviculture). The THP is located adjacent to the Russian River and the community of Guerneville, California.

The area proposed to be harvested by this THP has been harvested in the past, including under THP # 1-98-253-SON (the Silver Estate THP). THP # 1-20-00084-SON (the "Silver Estates" THP) was submitted to CAL FIRE on May 20, 2020. The THP was returned to the RPF on May 28, 2020, due to insufficient information in the THP. On June 30, 2020, the THP was resubmitted to CAL FIRE, and on July 9, 2020, the THP was accepted for filing. On July 24, 2020, a pre-harvest inspection (PHI) of the THP area was conducted. Agencies represented during the PHI were CAL FIRE, NCRWQCB, CDFW, CGS and the Russian River Sanitation District. On January 4, 2021, the Final Interagency Review (i.e. Second Review) of the THP occurred, and the THP was recommended for approval. After Second Review, the public comment period was set to close on January 14, 2021.

Revisions to the THP were received on July 22, 2020, November 2, 2020, December 7, 2020, December 16, 2020, January 4, 2021, November 22, 2021, and December 1, 2021. Due to revisions received after the close of the public comment period which constituted Significant New Information, the THP was recirculated on December 2, 2021, re-opening the public comment period for thirty days to January 3, 2022. CAL FIRE has requested multiple extensions to the Director's Determination Period to allow time to evaluate all public comments and prepare this Official Response.

As of 7/21/22, 406 comments were received during the public comment period though one of the 406 was a notification of a petition and the submitter did not provide a valid email address for further CAL FIRE correspondence to request clarification and/or more information. 42 comments were received after the close of the public comment period.

SIGNIFICANT ENVIRONMENTAL CONCERNS AND RESPONSES

The following is a summary of the concerns raised in the comment letters received during the public comment period. Each general concern will be listed, and a response will follow. The summaries of the comments do not necessarily correspond to the sequence of the comment letters.

1. CONCERN: Wildfire Risk and Hazard

The public has expressed concerns that the proposed THP could contribute to wildfire risk and/or hazard.

RESPONSE: Timber operations have the potential to increase wildfire risk and hazard if not properly mitigated. THP Section II, Item #30 (pages 75 & 76) outlines the hazard reduction requirements of the Plan. This item states that slash created by timber operations shall be treated for hazard reduction within 100 feet of the edge of the traveled surface of public roads—specifically, Neeley Road and Mays Canyon Road. CAL FIRE has evaluated hazard reduction treatments proposed in the plan and finds them to be in conformance with 14 CCR 917.2(b).

During timber harvest operations equipment and personnel are required by regulation to be available to fight a fire if one should start in the immediate vicinity when harvesting is occurring. The Forest Practice Rules require that each logging crew have a sealed box of tools within the operating area and accessible in the event of a fire per PRC 4428(a) and that each chainsaw operator have at least one serviceable round point shovel or one serviceable fire extinguisher within 25 feet when operating within 25 feet of flammable material per PRC 4431. These firefighting tools and equipment allow operators to immediately respond should a fire start as the result of natural causes (i.e., lightning), harvest operations, or other causes near active harvest operations. The Forest Practice Rules also require that logging roads and landings be kept in a passable condition during timber operations when burning permits are required [ref. 14 CCR 923.6(d)]. Periodic inspections by CAL FIRE include the verification that the required firefighting tools and equipment are in place.

A multiagency review team consisting of CAL FIRE, CDFW, CGS, NCRWQCB and the Russian River Sanitation District (RRCSD) conducted a PHI of the THP area on July 24, 2020. Concerning the area's fire hazard severity rating, fire history, expected fire behavior, and resources at risk. The PHI Report, dated July 31, 2020, concludes that the proposed treatments in the THP will be sufficient to reduce fire hazard and provide defensible space along roads. Regarding fire hazard reduction, the PHI Report states:

> *There is significant trespass throughout the plan area. Many active homeless encampments were observed during the PHI. The Inspector witnessed actively burning warming fires within the homeless encampments during the PHI. There is a current significant fire threat from these fires. The proposed timber harvesting will treat some of the fire hazards. Through the implementation of the THP, the fire threat will be reduced by treating the horizontal and vertical continuity of the fuels.*

The road system currently is in poor condition and access is limited. Through implementing the THP, the road system will be brought up to Forest Practice Rule standards and many problematic areas within the road system will be addressed and made passable. For example, the PHI began at Map Point E. The multiagency review team was in attendance evaluating this map point. This team included Greg Guensch Russian River Sanitation District who evaluated Map Point E with CGS to discuss his desire for the unstable area to be repaired for continued access for the District's maintenance of the spray fields. Furthermore, PGE also utilizes this road for utility maintenance. Due to the road failure, the road has not been passable for three years. The proposed road repair will benefit the landowner for access, but also the Sanitation District and PGE, as well as provide an overall benefit for emergency access in the event of a fire incident.

THP Section IV, pages 199 – 201, provide the Cumulative Wildfire Risk and Hazard Impacts Assessment. Regarding the existing and probable future fuel conditions including vertical and horizontal continuity of live and dead fuels, THP pages 199 and 200 state:

The THP silviculture (Selection, Group Selection, and Transition) will not significantly increase the risk of increased horizontal and/or vertical continuity or forest fuel loading. Trees to be harvested will be spaced and slash will spread throughout the stand. The plan area fire fuel conditions are typical of Sonoma county timberlands of the Redwood, Douglas-fir, and oak woodland types with a high amount of fuels as a result of past land uses associated with grazing, clearcut timber harvests, and fire suppression. The harvest area has been previously harvested, and some areas of the plan were repeatedly burned to allow for livestock grazing. The areas have since reforested and much of the plan area has been logged in the 1980's, 1990s, and early 2000's. The intention of the RMB Revocable Family Trust is to enter stands (where appropriate) approximately every ten to twenty years under uneven-aged silvicultures. This approach will reduce stand densities and lower fuel density by capturing mortality that occurs from self-thinning in the treated stands lowering the chance of high intensity fire. Further, the landowner restricts public access within the ownership to lower the risk of anthropogenic fires.

The existing and probable future fuel conditions associated with vertical and horizontal continuity of live and dead fuels will continue to fluctuate via the commercial harvest regime discussed above. Stands will tend to be less flammable immediately following a typical selective type harvest where the stand is opened to provide new growing space. As the slash created by the timber harvest dries it will slightly increase the fuel continuity component but as it decomposes it will become less of a fire threat. The use of unevenaged silviculture will release less of an understory brush component than evenaged silvicultures.

To produce a more fire-resistant stand is economically impractical without a cohesive, state-wide program for biomass allowing for commercially feasible fuel treatments or at least supplanted with subsidies for precommercial thinning or shaded fuel breaks. It is cost prohibitive for large landowners in Sonoma County to conduct specific fuel treatments on their properties on a large scale for fire protection due to the lack of available outlets for the products that would be created. The current and trending sawlog market is not viable enough to allow any additional monies to be invested in fuel treatments due to the high cost and zero return to treat areas for fuel reduction. Therefore, fire prevention done in

conjunction with timber harvests is the most cost-effective way to treat timberland on a large scale rather than projects that focus solely on fuel reduction.

Regarding the location of known existing public and private fuelbreaks and fuel hazard reduction activities, THP page 200 states:

There is one known fuelbreak within the assessment area on the adjacent property owned by the Bohemian Grove. In 2017/2018 the Bohemian Grove implemented fuel breaks along the ridge tops surrounding the Grove. The plan area is near the community of Guerneville, CA. The area is heavily populated with roads maintained by Sonoma County that can act as fuel breaks during a low/moderate intensity fire. Road masticating associated with the THP allows for access to roads as well as also reducing fuel loads along roads making them more defensible in the event of low/moderate intensity fires. The harvesting of timber allows the landowner to offset the cost of maintaining and improving road access.

Regarding road access for fire suppression resources, THP page 200 states:

Road access for fire suppression is provided by Neely [sic] Road and Mays Canyon Road along with allowing the Local and State Fire Agencies access to RMB Revocable Family Trust private roads which are often in better condition than other private roads, allowing for a more rapid emergency response in the event of a fire. The plan is well accessed with existing roads and during operations all roads will remain open in case of fire suppression activities. The timber harvest area has cell service in most locations of the plan for immediate reporting and directing of fire suppression equipment.

Fire suppression access shall also be improved within the THP through the reconstruction of a main truck road at map point E. Currently the road is not passible [sic] by vehicle, therefore an engine could not reach the ridge via this route. After operations, map point E will be passible [sic] by an engine improving fire suppression access to the plan area and adjoining properties.

Timber Operations rely on the Forest Practice rules to regulate fire prevention during timber harvest. Fire Prevention Rules are posted at the entrance to logging operations during fire season when burning permits are required, these rules list the requirements for smoking, warming fires, maintenance of power saws and equipment, resources required and warning of additional safeguards when fire danger is high. The timber operator is required to have a Fire Box on all active landings containing one backpack pump-type fire extinguisher filled with water, two axes, two McLeod fire tools, and sufficient number of shovels so that each employee at the operation can be equipped to fight fire. The LTO is also required to have a serviceable chainsaw and all vehicles shall have a shovel and an axe.

CAL FIRE has evaluated the potential wildfire risk associated with the proposed THP. The proposed timber operations will reduce the vertical and horizontal continuity of forest fuels, and will also open access for fire suppression equipment. While wildfire risk cannot be completely eliminated, CAL FIRE has determined that implementation of the slash treatment standards specified in the THP and in compliance with the Forest Practice Rules is likely to result in a slight reduction of wildlfire risk associated with timber operations.

2. CONCERN: Wildlife Impacts and Botanical Impacts

The public has expressed concerns that the proposed THP does not adequately protect wildlife and/or their habitat.

RESPONSE: Prior to submitting a THP, an RPF must conduct an assessment of biological resources, and identify any species that could be impacted by the proposed timber operations. The first step is to consult various sources of information, including, but not limited to, databases such as the California Natural Diversity Database and the California Wildlife Habitat Relationships System (CWHR). Typically an area covering nine 7.5' USGS quadrangles (one quadrangle being the quadrangle where the THP occurs, in addition to the eight surrounding quadrangles) is queried to develop a list of species which have been known to occur within the vicinity of the THP. Then an assessment area is established around the THP to assess habitat conditions around the THP, which in northern coastal California is typically the area within 0.7 miles of the THP. The RPF compares the list of which could potentially be present to the habitat available within the THP and within the assessment area, and makes a determination as to the potential impacts to each species. A description of this procedure is included at the bottom of THP page 134.

The species identified in the 7.5' USGS quadrangle search are included on THP pages 135 – 154. Plant species which were identified are included on pages 155 – 185. Those Listed Species that are identified as having habitat within the Biological Assessment Area are listed in THP Section II. THP Section II, Item #32.a. (pages 77 – 81) identifies and provides protection measures for 23 different plant and animal species associated with the THP area, including their habitats, which are listed as rare, threatened or endangered under federal or state law, as well as sensitive species designated by the Board of Forestry & Fire Protection.

Per THP page 186, surveys for botanical resources were conducted on 3/14/19, 3/15/19, 5/3/19, 5/6/19, 6/11/19, 6/17/19, 7/1/19, and 7/9/19. "The Rare Plant Assessment and Botanical Survey for the Redwood Empire Silver Estates THP" has been included in THP Section V, pages 386 – 444. Item #32.b (pages 81 & 82) identifies and provides protection measures for one rare plant (Northern California Black Walnut : CRPR 1B.1) identified during floristic survey efforts.

THP Section II, Item #32.c. (page 82) identifies and provides protection measures for seven non-listed species that may be associated with the THP area, even though they were not detected in the THP area during Plan preparation. THP page 82 also provides protection measures for plants that are discovered in the THP area after the THP is approved, stating:

> *No timber harvesting or road construction shall occur within 50 feet of any location supporting a listed/sensitive plant unless alternative mitigation measures, developed through consultation with CDFW, are applied.*

The cumulative impacts assessment for biological resources (pages 133.1 – 191) in Section IV of the THP evaluates the potential of the proposed operations to cause or add to significant adverse cumulative impacts to plants and wildlife. The assessment finds that any potential for the proposed timber operations to cause or add to significant adverse cumulative impacts by itself or in combination with other projects has been reduced to insignificance or avoided by mitigation measures or alternatives proposed in the Plan and application of the Forest Practice Rules. Additional information regarding plant and wildlife surveys and assessments as well as consultations with CDFW can be found in Section V of the THP (pages 319 – 444).

These surveys, protection measures and the cumulative impacts assessment for biological resources have been evaluated and revised throughout the review process. Specific to biological resources, the Review Team had 15 questions in the First Review Report, as well as three recommendations in the PHI Report, and eight more recommendations at Second Review. The Department has evaluated the RPF responses to these questions and recommendations, and finds that the revisions and additions to the THP are satisfactory. CAL FIRE has determined the THP in combination with the Forest Practice Rules, sufficiently mitigates potential adverse impacts to biological resources.

3. CONCERN: Landslide Risk

The public has expressed concerns that the proposed THP could cause landslides.

RESPONSE: THP Section V, Pages 230-267.8 includes the Focused Engineering Geologic Review of the Silver Estates THP (Revised) conducted by Certified Engineering Geologist Timothy C. Best (CEG #1682) dated 6/11/2020. The purpose of the review, as stated on page 230, is as follows:

> *The purposes of this review were to 1) identify unstable areas as defined in California Forest Practice Rules (FPR), 2) evaluate the potential impact of the proposed harvest on slope stability and associated impacts to public safety and water quality and 3) provide recommendations to reduce the potential geologic impact of the proposed THP.*

Best later describes his Scope of Services on page 231:

> *This study has been conducted in general conformance with the work scope outlined in the Department of Conservation, California Geologic Survey (CGS) "Guidelines for Engineering Geologic Reports for Timber Harvesting" (DMG Note 45). The approach used here is qualitative in nature based on field and air photo observations, past professional experience working on similar terrain, and information presented in professional literature. We inspected older harvest areas within the region from the historic set of aerial photographs to evaluate the potential impact of the proposed harvest on landsliding in the THP area. Subsurface exploration and geotechnical engineering are outside the scope of this study. It is assumed that by avoiding those practices which have been documented to result in significant instability and erosion in the past, the proposed THP is unlikely to result in significant adverse cumulative impacts.*
>
> *We worked closely with the RPF during plan layout and the preparation of the final THP. Our recommendations to minimize the risk of accelerated landslide movement and sediment delivery to watercourses have been incorporated into the final THP by design.*
>
> *Work performed during this investigation included:*
> - *Review of pertinent published and unpublished geologic reports relevant to the THP.*
> - *Review of five sets of stereo aerial photographs taken in 1948, 1956, 1975, 1982 and 1994.*
> - *Review of available digital ortho-quads and Google Earth imagery.*
> - *Review and analysis of Sonoma County bare earth LiDAR imagery;*

- *Geomorphic field reconnaissance of the THP area. We did not inspect all parts of the THP; rather the field review was directed to areas of concern identified in the aerial photographs or brought to our attention by the RPF;*
- *Discussions with Tom Smythe (RPF) and Jamie Pusich (RPF)*
- *Data analysis and preparation of this report.*

Given review of literature and resources listed above, Best was able to map the various Deep-Seated Landslides as well as interpret their level of activity within the project area. Please refer to Figures 1 and 2 on pages 267.4 and 267.5, respectively. Best further goes on to state his findings on page 237:

> *Within the plan area, the deep-seated landslides exhibit varying degrees of activity. The majority of the slides appear weathered and subdued and are forested with straight standing second growth conifers and old growth stumps. Based on field observations these correspond to a "dormant-young" morphological age classification.*
>
> *Portions of Slides G1, G3, G8 and G9 exhibit evidence of local small-scale historic displacements based on the presence of leaning trees, discrete ground cracks and/or general slide morphology. Some of these slides appear to have partially reactivated in the late 1990's, likely associated with the heavy and prologed El Nino storms. The displacements are localized with only a small portion of the slide complex showing signs of reactivation.*

Best later goes on to describe those pertinent landslides:

> ***Slide G1**: 22-acre translational landslide/earthflow complex located on moderate gradient slopes above an outside bend in [the] Russian River which undercuts the slope. The majority of the slide appears dormant without signs of recent or active displacements. Local small scale slope displacements were reported by Haydon (2000) at N1 along the lower portion of the slide offsetting a seasonal haul road. Haydon interpreted N1 to be a natural feature that had been exacerbated by the road cut for Neeley Road. The current THP has been modified to exclude harvesting on this slide.*
>
> ***Slide G3**: 1.5 acre historically active deep-seated translational landslide located on north facing slopes above Neeley Road. The current THP has been modified to limit harvesting on this slide.*
>
> ***Slide G8**: 8-acre deep-seated translational landslide with equivocal evidence of historic slope displacements. This slide is located within the upper portion of a Class III watercourse draining the southern flank of Neeley Ridge and uplope of residential homes. This slide and adjacent ground have been excluded from the plan and therefore the harvest will have no impact on stability.*
>
> ***Slide G9**: 6-acre dormant to historically active deep-seated translational landslide located on moderate gradient slopes on the south side of Neeley Ridge and within an "effluent spray field" for the Russian River CSD Treatment Plant. This slide and adjacent ground have been excluded from the plan and therefore the harvest will have no impact on its stability.*

Best discusses the impacts of Timber Harvesting on Deep-Seated Landsliding on Page 238. Professional citations are referenced within his discussion, all leading to this conclusion on Page 239:

> *Based on findings from available studies it appears reasonable to mitigate the potential impact of harvesting on active deep-seated landslides by retaining a viable component of the existing timber stand. Retention standards described in the California Forest Practice Rules for selection harvesting appear sufficiently conservative to minimize the potential impact of the harvest on deep-seated slope stability.*

Best later sums up his recommendations on Page 240:

> *The THP proposes a light partial harvest under transition, group selection and selection silviculture. On the mapped deep-seated landslides [the] RPF reports the harvest will retain approximately 60% of existing stand with an average minimum total basal area of 80 sf/ac of conifers and hardwoods. The proposed harvest will focus on individual tree selection from the larger size classes, with small group harvests in areas displaying high defect and/or along cable corridors.*
>
> *The THP was further modified as follows:*
> - ***Slide G1**: Retain a minimum of 80 sf/ac average total basal area across the slide, exclude harvesting on 0.5 acres of ground at N1, and exclude harvesting from the steep toe slopes bounding Neeley Road.*
> - ***Slide G3**: Exclude harvesting within 75 feet of Neeley Road and retain a minimum of 100 sf/ac total basal area when averaged across the slide area.*
> - ***Slides G8 and G9**: Harvesting is not proposed upslope of residential homes (G8) and the RRCSD treatment plant and spray field area within (G9) and therefore will not [have an] impact on slide stability in those areas.*
>
> *The proposed harvest as modified appears to be adequate to minimize potential chages in root strength and evapotranspiration that could potentially increase the risk of slope displacements. A significant increase in harvest related deep-seated instability is therefore not expected. The proposed harvest as modified will not have a significant impact on public safety.*
>
> *Tractor operations on slopes generally less than 50% are also unlikely to have any measurable impact on slide stability since the mass balance and hydrology of the slide will not be substantially altered.*

The RPF included this enforceable language within Section 2, Item 14 on pages 11 and 12.

Best then shifts his discussion to Shallow-Seated Landslides (Page 240):

> *Shallow landsliding in the area is characterized by rapid moving debris slides, debris flows, and channel bank failures. These are rapid moving shallow features (generally less than 10 feet thick) that usually incorporate only the overlying surficial mantle of soil, colluvium, and weathered bedrock. Most natural shallow slides are located on steep slopes and are triggered by elevated porewater pressures resulting from high intensity and /or long duration rainfall or from being undercut by stream bank erosion. Most management*

related slides are associated with failure of the fill prism or older roads and skid trails. Silviculture related failures are, in comparison, much less frequent.

Historic aerial photographs coupled with field reconnaissance allowed Best to identify shallow landsliding within or adjacent to the project. The location and extent of those features are located within Figures 1 and 2 on Page 267.4 and 267.5, respectfully. Best then discusses Management Impacts on Shallow-Seated Landsliding (Page 241):

Forest management practices can potentially affect shallow hillslope stability by: 1) temporarily increasing water inputs and soil moisture because of reduced evapotranspiration, 2) reducing root strength reinforcement on the hillside, and 3) performing improper road construction and maintenance (e.g. removal of landslide toe support by grading, surcharging loading of the road fill slope and diverted runoff).

Best discusses the impact of unevenaged silviculture on Shallow-Seated Landslides (Page 242):

Partial cutting retains a significant component of the overstory and understory vegetation, maintaining root strength and evapotranspiration/rainfall interception processes. Accordingly studies suggest partial harvests have less adverse impact on slope stability than clearcutting (Krogstad, 1995; Robison et al., 1999; Schmidt et al., 2001; Sidle, 1991; Sidle, 1992; Ziemer, 1981b). An Oregon Department of Forestry study of the effects of the 1995-96 storms revealed that comparatively few landslides originated in partially cut areas (Robison et al., 1999). Megahan et al. (1978) found that in Idaho landslide frequency increase only slightly as overstory crown cover is reduced from 100 percent to 11 percent.

Best later concludes (Page 242):

Our review of several hundred timber harvest plans in coastal California covering over one hundred thousand acres found little evidence of renewed shallow-seated slides associated with partial harvest (road and skid trails excluded).

Best then discusses the RRCSD Spray Fields impacts on Shallow-Seated Landslides (Page 242 and 243):

As discussed in the deep-seated landslide section of this report, the application of wastewater onto steep slopes can increase the potential for shallow landsliding. A 1990's debris flow at N3 partially caused by the application of partially treated effluent (Manson, 1998; Schlosser, 2001). The THP has been modified to exclude harvesting within most wastewater discharge areas outside of the alluvial flat.

Best's conclusion on the Shallow-Seated Landslide discussion is located on Page 243:

Shallow landslide hazards are greatest on steep streamside slopes, headwall swales, and debris slide slopes with the majority of past shallow landslides having occurred in these areas. Harvesting on these slopes has been excluded or restricted to a partial cut to minimize potential changes in root strength that could increase the risk of slope displacements.

Areas G5, located upslope of Neeley Road and G7, located upslope of several residential homes and RRCSD treatment plant are excluded from the plan area and therefore the harvest will have no impact on hillslope stability in those areas.

In area G12 the THP has been modified to transition silviculture focusing on the larger diameter redwoods in groups, retaining an average of 75 to 100 sf/ac total basal area. It is our opinion that the proposed retention standards coupled with redwood dominated stand composition appear sufficiently conservative to minimize the potential impact of a harvest on shallow-seated slope stability.

The RPF included Best's recommendations into Section II, Item 14 and Item 24, respectively.

A representative from CGS attended the PHI and evaluated the proposed timber operations. Other than a recommendation made by the CGS representative at Map Point #1, which is further discussed in Concern #6), all of CGS' recommendations have been incorporated into the THP.

CAL FIRE has evaluated landslide and geologic instability risks associated with the THP, as well as the "Focused Engineering Geologic Review of the Silver Estates THP (Revised)" conducted by Certified Engineering Geologist Timothy C. Best (CEG #1682) dated 6/11/2020. Based upon this evaluation with participation of the California Geological Survey, CAL FIRE has determined the THP, in combination with the proper implementation of the Forest Practice Rules, is not expected to result in slope stability concerns or an acceleration of landsliding processes.

4. CONCERN: Flooding Risk

The public has expressed concerns that the proposed THP could cause an increased risk of downstream flooding.

RESPONSE: In Section IV of the THP, the RPF provided an evaluation of the potential for increases in peak flow effects to result from timber operations as proposed. The RPF observed that project-related increases in peak flow are typically associated with rapid surface runoff of precipitation due to reduced vegetative interception and evapotranspiration. The THP proposes unevenaged regeneration methods of single-tree selection, group selection, and transition silviculture. These regeneration methods have been used in past harvest entries in the THP area in 1998, 2000, and 2001, respectively. Unevenaged silviculture results in retention of a significant amount of forest understory and overstory canopy across the landscape at the completion of timber operations. The retained canopy levels provide for persistent vegetative rainfall interception and evapotranspiration. The timber operations proposed in the THP must comply with the Forest Practice "Road Rules" as discussed elsewhere in this Official Response document. These rules require hydrologic disconnection of roads, trails, and watercourse crossings from watercourses through retention of vegetation; appropriately designed, constructed, and maintained drainage structures and facilities along roads and landings to avoid concentrating and diverting runoff; and inspection of such facilities to ensure their continued function.

The THP identifies the following specific measures to mitigate the effects of increases in peak flow in Section IV on Page 131:

This plan proposes to reduce [effects of] *peak flows as a result of operations with a combination of Forest Practice Rules, Best Management Practices and the following proposed management practices:*

- *Tractor operations limited to existing skid trails when feasible.*
- *Exposure of significant areas of soil or reduction of large amounts of vegetation will not occur on large areas.*
- *Slash remaining from operations and or standing vegetation will remain on-site to lessen raindrop impact.*
- *Silviculture prescription with specific marking requirements will not result in large exposed areas.*
- *Large areas of exposed ground will not occur due to low amounts of repetitive skid trail use and no prescribed burning.*
- *Existing, well established mainline roads used for repetitive hauling are concentrated on the ridges away from watercourses when feasible.*
- *Minimal use of WLPZ roads with mulching requirements as stated in Section II, Item 18.*

It is appropriate to note related to the concern about flooding potential, the THP acknowledges in several places that a "Flood Prone Area" (FPA), as defined in the Forest Practice Rules Section 895.1, exists adjacent to the southern edge of the THP area. Based upon this observation, the RPF pre-consulted with CDFW to verify the RPF's perceived delineation of the FPA and evaluate the timber operations and protection measures proposed. This pre-consultation is documented in Section V of the THP in a letter from CDFW to the RPF, dated May 7, 2020. As stated in the letter:

CDFW concurs with the proposed FPA management practices. CDFW field verified and confirmed the proposed boundary delineations of the Channel Migration Zone, Core Zone, Inner Zone A, Inner Zone B, and the extent of the WLPZ area are accurate and appropriate given field conditions.

Upon conclusion of the pre-consultation, CDFW recommended the RPF incorporate a map into the THP indicating the above-mentioned boundary delineations, flag each identified zone in the field prior to the PHI. CDFW also recommended retention of the "Clar tree" with a 75' no-cut buffer around it. These recommendations were incorporated into the THP as specified.

CAL FIRE has evaluated the potential for the timber operations proposed in the THP to adversely contribute to peak flows and flooding. Based upon the measures contained in the THP, the unevenaged silviculture proposed, and the Forest Practice "Road Rules," CAL FIRE has determined the THP will is not likely to contribute to adverse watershed effects associated with peak flows and flooding.

5. CONCERN: Scenic Corridor and Visual Impacts

The public has expressed concerns that the proposed THP does not adequately protect the Highway 116 Scenic Corridor and/or could have adverse impacts on visual resources.

RESPONSE: THP Section I, Item #7.b. (page 5) identifies and discusses the Special Treatment Area (STA) for the Highway 116 Scenic Corridor:

Approximately 96% (approx. 216 acres) of the THP is located within a County and State Designated Scenic Corridor. However, approximately 40% (approx. 91 acres) of the

proposed THP is the area above Mays Canyon Road and cannot be seen from Highway 116. The final report of the Sonoma 116 Scenic Highway Corridor Study, State of California, Department of Transportation, District 4, San Francisco, September 1988, was consulted to determine the boundaries of the corridor. The Scenic Corridor is "the result of collaboration between the Sonoma County Citizen's Advisory Committee, CALTRANS, Sonoma County Planning Department, and the City of Sebastopol. The majority of the THP area has been given Special Treatment Area Status due to the County Designated Scenic Corridor for State Highway 116. Within the THP, areas that are visible from Highway 116 have proposed silvicultures that include: Single Tree Selection, Group Selection, and Transition. The respective silviculture methods have been identified on the THP Maps. In assessing the impacts to the visual resource assessment area, the RPF considered the impact that the silviculture prescriptions could have on the aesthetics of the THP and the surrounding local area. The silviculture and harvesting methods combined will protect the visual integrity of the THP area. It is anticipated that no significant adverse visual impacts will occur as a result of the proposed timber harvesting operations.

Review Team Question #2 from the First Review Report, dated July 9, 2020, asked the RPF to:

Please revise Item# 14(a) to disclose that a Special Treatment Area Prescription is proposed, include the acreage, and clarify under Item # 14 if there are any discrepancies in acreage between Item # 14 and Item #7 if appropriate.

The RPF Response, received on July 22, 2020, states:

The majority of the THP does fall within the Special Treatment Area for the Highway 116 Scenic Corridor. However, as stated on page 5 and 11 of the THP, the silvicultures proposed within the plan area are un-evenaged methods and will result in minor effects to the aesthetics of the stands that are visible from the Highway 116. Crown canopy and stocking will be reduced through the proposed harvest methods, however these changes will be difficult to discern post-harvest considering basal area retentions required for Selection, Group Selection and Transition silvicultures. According to the 1988 "Final Report of the Sonoma 116 Scenic Highway Corridor Study" the "Special Features" described in report that are contributing to the scenic quality of the scenic corridor include the tall trees along the Russian River. Since the Core Zone of the Russian River is a No Harvest (NH) area, and the remainder of the Watercourse Lake and Protection Zone adjacent to the river that is proposed for harvest is comprised of 50-80% canopy retention and single- tree selection, it is not expected that these "Special Features" will change or impact the scenic corridor post- harvest. Because the elements of the Scenic Corridor will be retained through the proposed silvicultures, there is no "Special Treatment Area Prescription" proposed.

A multiagency review team consisting of CAL FIRE, CDFW, CGS, NCRWQCB and RRCSD conducted a PHI of the THP area on July 24, 2020. In response to public comment received prior to the conclusion of the PHI, specifically regarding the STA for the scenic corridor of Highway 116 as well as the aesthetics of the forest stands that can be visible from Highway 116, the PHI Report, dated July 31, 2020, states:

Most of the THP area is within the STA for the scenic corridor of Highway 116. This was evaluated during the PHI. The core zone of the Russian River is a no harvest area. The

remaining area consisting of selection, group selection and transition is anticipated to result in minor effects to the aesthetics of the forest stands that can be visible from Highway 116. However, these areas will be difficult to discern postharvest considering the retention standards mandated by the Forest Practice Rules. The property is zoned TPZ. Such zoning is dedicated to the growing and harvesting of timber. Pursuant to 14CCR 897(a), there is a legal presumption that timber harvesting is expected to and will occur on such lands.

This same section of the PHI Report also addresses the proposed silviculture, specifically within the WLPZ for the Russian River:

The proposed silviculture was evaluated during the PHI and complies with the Forest Practice Rules. Within the Class I (Russian River) Inner Zone A, zone width of 30 to 150 feet, 80% of the overstory canopy shall be retained, thereby significantly limiting the amount of timber harvesting. Within the Class I Inner Zone B, zone width between 150 feet to the WLPZ flagging (which varies to as far away as 900 feet from the Russian River), 50% overstory canopy shall be retained. This further limits the amount of allowable timber harvesting. Furthermore, the 13 largest conifers on each acre of Inner Zones A and B must be retained, which was verified during the PHI.

THP Section IV, pages 191 and 191.1, revised on November 22, 2021 and December 1, 2021, respectively, provide the Cumulative Visual Impacts Assessment:

The majority of the plan area lies within a County and State Designated Scenic Corridor for Highway 116, however approximately 40% of the plan cannot be seen from Highway 116. The silvicultures proposed within the plan area are un-evenaged methods and will result in minor effects to the aesthetics of the stands that are visible from the Highway 116. Crown canopy and stocking will be reduced through the proposed harvest methods, however these changes will be difficult to discern post-harvest considering basal area retentions required for Selection, Group Selection and Transition silvicultures. According to the 1988 "Final Report of the Sonoma 116 Scenic Highway Corridor Study" the "Special Features" described in report that are contributing to the scenic quality of the scenic corridor include the tall trees along the Russian River. Since the Core Zone of the Russian River is a No Harvest (NH) area, and the remainder of the Watercourse Lake and Protection Zone adjacent to the river that is proposed for harvest is comprised of 50-80% canopy retention and single-tree selection, it is not expected that these "Special Features" will change or impact the scenic corridor post-harvest.

The plan area can be seen by pedestrians, recreators and/or vehicles travelling on State Highway 116, Mays Canyon Road, Neeley Road, the Russian River, the Northwood Golf Course area, and the subdivisions of East Guernewood, West Guernewood, and Vacation Beach. The harvest area near the Water Treatment Plant can be seen between mile markers 9. 10 on Highway 116 near Redwood Drive 10 mile marker 10.54 near Riverside Drive. However, it should be noted there are many obstructions to direct views of the harvest area along the highway such as homes and trees. The harvest area above Neeley Read can be seen from Highway 116 near the address 17801 (Ferrell Gas parking lot area). The closest distance "significant" numbers of people can view the proposed timber operations is approximately 1,000 feet, from sections of Highway 116, This is a busy thoroughfare, and many people drive this road daily. Most people will be viewing the THP

area from a moving vehicle traveling east and west on Highway 116 with a posted speed limit of 35 miles per hour. The view of the project area for residents or pedestrians from the neighborhoods listed above a stationary position (i.e. not driving) will be minimally impacted by the proposed project. To assess viewshed impacts to the neighborhoods listed above the RPF drove or walked through the residential areas listed above. The RPF toured these neighborhoods with the intent on finding locations where the plan area is readily visible. After a complete assessment it was determined that the configuration of houses, buildings, and large redwood trees make the plan area difficult to see from most locations. There are no large open vista points that look directly at the plan. There may be small, isolated areas that contain a view of the plan area, but no large sweeping vistas that look at the entirety, or even a large portion of the harvest area. With many views being impeded by homes, trees, vegetation, other obstructions, impacts to the viewshed are expected to be minimal. The silvicultural prescriptions proposed in this plan provide for significant retention as a visual objective. Uneven-aged management will provide sufficient residual trees and vegetation that will not be visually displeasing.

Findings: The landowner is very aware of public perception and the selected silviculture is a reflection of that concern. The silvicultural prescriptions proposed in this plan provide for significant retention as a visual objective. Form, texture and color will not be significantly altered in portions of the plan area where road, skid trail, or harvest management is proposed. Management activities will be visually subordinate to the characteristic landscape. In the middle ground view, small unconnected areas will be visible from available vantage points, due to the steep mountainous characteristics, bisecting draws, and viewing angles. In the foreground the retention of eye level vegetation will obstruct the view of harvesting activities. Uneven-aged management will provide sufficient residual trees and vegetation that will not be visually displeasing. No reasonably significant potential effects will occur to visual qualities. No known past or future projects within the Visual Assessment Area, when combined with the potential effects of this project, are expected to significantly impact visual qualities.

CAL FIRE and the multiagency review team evaluated the potential for impacts to the Highway 116 Scenic Corridor and visual aesthetics in proximity to publicly accessible areas as part of the PHI field review. The RPF documented efforts in Section IV of the THP to ascertain visual corridors by which timber operations could be viewed. It is likely the most common visual indicator of timber operations under the THP would be the hauling of logs on public roads; and log hauling is proposed to occur in small numbers of an estimated 4-5 truckloads per day for an estimated 3-4 weeks on weekdays only. The choice of silvicultural methods in the THP, in combination with the location and topography of the harvest area, and the Forest Practice Rules for canopy retention along watercourses, mute the potential for significant visual impacts. Timber operations have occurred on the THP area previously in 1998, 2000, and 2001; and the operations proposed are anticipated to be of short duration followed by another lengthy period in which no harvest activity occurs. Past harvest activity has resulted in a pleasing visible forest condition on the THP area as evidenced by the public concerns expressed at the prospect of this existing condition being irreparably altered or lost. For these reasons CAL FIRE has determined the potential for adverse impacts to the Highway 116 Scenic Corridor and visual aesthetics as a result of operations under the THP is less than significant.

6. CONCERN: Impacts of Log Hauling on Public Roads; Responsibility for Culvert Repair on Neeley Road; Traffic and Public Safety

The public has expressed concerns that the proposed THP could have detrimental impacts to public roads, particularly regarding a Class II watercourse crossing on Neeley Road with an undersized, plugged and failing culvert (described as Map Point # 1 on THP page 26). These concerns led to questions about whose responsibility it is to repair this site, potential emergency access/egress issues on Neeley Road in the event of culvert failure (or a landslide), as well as general traffic and public safety concerns.

RESPONSE: Impacts of Log Hauling on Public Roads

A multiagency review team consisting of CAL FIRE, CDFW, CGS, NCRWQCB and RRCSD conducted a PHI of the THP area on July 24, 2020. Regarding log hauling on public roads, the PHI Report, dated July 31, 2020, states:

> *There are two public roads maintained by the County of Sonoma that will be utilized for hauling. Most of the logs will be hauled out on Mays Canyon Road. Some of the logs will be hauled out Neeley Road… Neeley Road is a public road. There are no use restrictions in place that would limit the hauling of logs by the landowner. There is no Forest Practice Rule limiting the use of public roads for Sonoma County.*

the Timber Yield Tax is an excise tax paid to the State Department of Tax and Fee Administration by forest landowners when harvested timber is sold to another party. The tax revenue generated through timber sales is allocated back to the county where the timber was harvested. These taxes help fund local government activities and responsibilities. Tax revenues generated by this timber harvest for example could be used by Sonoma County to help fund ongoing maintenance and repair of County-maintained-road networks. As discussed in Section IV of the THP, Neeley and Mays Canyon Roads have both been used for log hauling from the project area during three previous harvest entries in 1998, 2000, and 2001, respectively. Proposed log hauling will be limited to an estimated 4-5 truckloads per weekday on average with no more than an estimated 1-2 trips occurring during peak traffic hours. Log hauling will not occur on weekends. The total number of truckloads estimated for the project is approximately 100.

RESPONSE: Responsibility for Culvert Repair on Neeley Road

A multiagency review team consisting of CAL FIRE, CDFW, CGS, NCRWQCB and RRCSD conducted a PHI of the THP area on July 24, 2020. Recommendation #16 from the PHI Report, dated July 31, 2020, states:

> *During the PHI, the review team inspected the culvert located at map point 1. In the THP Significant Erosion Sites Map Point Table, map point 1 is described as an existing, failing 24-inch diameter by 100-foot long corrugated metal pipe on a Class II watercourse that drains into the Russian River, a Class I watercourse, approximately 60 feet below the outlet. Half of the culvert is on Redwood Empire property; the other half is on Sonoma County property. The THP describes and the review team observed multiple issues with the culvert; it is rusted with holes in the bottom resulting in soil piping, the outlet is perched with no downspout or energy dissipaters, it is undersized, the inlet is fully plugged with debris, and there is record of the culvert plugging during high flows and diverting water*

approximately 50 feet down the access road before discharging into the inside ditch of Neeley Road. The THP states, "The existing culvert will ultimately need to be replaced with a larger diameter pipe. However, because about half of the pipe crosses a public road with underground utilities on County lands, any repair of this site will need to be done in cooperation and support from Sonoma County public works. The RPF contacted the County about this culvert and they replied that they do not have immediate plans to replace this culvert."

The review team agreed that the culvert is failing and should be replaced. Currently the THP proposes to limit repairs to improving the culvert inlet because there is little benefit to replacement of only the upstream half of the culvert on Redwood Empire property. The short-term improvements will improve crossing conditions but will not prevent failure. CDFW along with the other review team agencies agreed to contact Sonoma County Public Works to inform them of our evaluation of the culvert conditions and recommendation for replacement.

CDFW recommends that any correspondence between the agencies and the Sonoma County Public Works regarding map point 1 be amended into the plan. Justification: Including documentation of review team agency requests for map point 1 replacement supports the RPFs proposal to only apply short term improvements and it provides background information to assist with future inquiries into proposed work at the map point.

The RPF Response, received on November 2, 2020, states:

The RPF agrees and all correspondence between the review team agencies and Sonoma County Public works will be amended into the THP.

As such, the RPF and landowner representative have met with Sonoma County Transportation and Public Works (SCTPW) regarding the culvert at Map Point #1. The landowner and SCTPW have agreed to replace the entire length of the culvert. The landowner will supply the labor and equipment and SCTPW will supply the materials. Please see the Culvert Replacement Agreement between the SCTPW on additional page 289.9.

Please see revised pages 39, 40, 58, 59, 60.1, 225, 264, 275 and 276.

CGS made the following Second Review recommendations, dated December 29, 2020:

Map Point 1: The RPF response to CGS PHI recommendations includes a letter from Sonoma County Transportation and Public Works Department (SCTPW, 2020) that discloses the County's intent to cooperate with the THP proponent/landowner (Redwood Empire Sawmills) in replacing the undersized and plugged culvert at Map Point 1. The inlet of the culvert is located within the northern THP boundary and extends to the north under Neely Road, a publicly maintained road outside of the proposed THP boundary. The undersized, plugged and failing culvert was determined to constitute a potential public safety hazard during the PHI. According to the County letter, the proposed replacement work is to be approved under the THP permitting process with all work to be conducted by the THP proponent/landowner (Redwood Empire Sawmills). Concern was raised by Cal Fire during a meeting on November 20, 2020, that overseeing what appears to be a public

works project along a non-appurtenant road located outside of the THP boundary is not consistent with the provisions of California's Forest Practice Rules. Because it does not appear that the public safety hazard can be mitigated without replacing the existing crossing, it was determined that the proposed map point should be removed from the THP. Based on discussions with the RPF, the County will not prioritize the replacement if it is required to pursue a separate permit outside of the THP approval process, resulting in the public safety hazard remaining. This intention is not clarified in the County's letter (SCTPW, 2020).

According to the RPF, existing conditions and concerns at the crossing were described in a pre-consultation report by the North Coast Regional Water Quality Control Board, which occurred prior to the PHI. It was noted by the RPF and Cal Fire inspector during the November 20, 2020 meeting, that a copy of the NCRWQCB pre-consultation report was provided to Sonoma County and is attached to the THP. Based on cursory review of the THP, the pre-consultation report does not appear to be included in the THP and has not been submitted as part of the RPF responses.

It is the intent of CGS to ensure that adequate notification of the existing public safety hazard has been provided to the responsible party, Sonoma County. As was discussed during the PHI and November 20, 2020 meeting, we acknowledge that the RPF, Redwood Empire Sawmills and Cal Fire do not have the authority to compel the County to provide a response to the notifications or prioritize the culvert replacement. Even with limited or no responses from Sonoma County, providing the records of notification attempts in the THP will document the due diligence taken by the RPF and Redwood Empire Sawmills to notify the County of the existing public safety hazard. Consistent with CGS PHI recommendations at Map Point 1, please include in the THP all attempts at communication with Sonoma County regarding Map Point 1, including but not limited to emails, letters, site visit/phone logs and a copy of the RWQCB pre-consultation report. CGS assumes no liability in the event that the existing undersized, plugged and failing culvert is left in place and the public safety hazard remains.

BecauseNeeley Road is a public road for which Sonoma County has maintenance responsibility, it does not meet the 14 CCR 895.1 definition of "Appurtenant Road," and CAL FIRE has no authority to require any mitigations from the Plan Submitter. The County of Sonoma has been informed that there is a public safety issue at Map Point #1 along Neeley Road, and the County of Sonoma has the responsibility to fix and maintain the road, not a private landowner. However, the following mitigations have been included in the THP for Map Point #1 where the culvert occurs on the Plan Submitter's property:

- *Clean the culvert inlet and pull back perched fill to a slope.*
- *Rock armor the inlet using 18-inch diameter rock placed two layers thick. Rock shall extend the full distance to the road surface. Place rock to form a flared inlet wing wall at approximately 45 degrees.*
- *Install an inclined heavy-duty metal grade trash rack upstream of the culvert that extends the full width of the channel.*
- *Inslope the access road to drain to Neeley Road. Rock the road prism using ~6-inch diameter angular placed 12 inches thick and capped by a thin layer of rock aggregate to give the road a smooth running surface.*

- *Because approximately half the culvert is located on Sonoma County property it cannot be replaced as a part of this THP, and it must be done through a Public Works Project. Inform County Public Works about the observed condition of the culvert and the temporary measures that are being implemented to partially stabilize the portion of the culvert on the subject property. If Sonoma County Public Works does decide to replace the culvert within the life of the THP, the landowner will work in conjunction with Sonoma County and the THP will be amended to include a description of the crossing upgrade on Redwood Empire properly. Sonoma County has been informed of the current condition of their culvert. Please see additional pages 289.09-289.23 for emails that have informed Sonoma County of the poor condition of the culvert.*

Given the circumstances surrounding Map Point #1, CAL FIRE believes that the mitigations included in the approved THP are appropriate.

RESPONSE: Traffic and Public Safety

CAL FIRE has evaluated proposed log hauling on public roads as specified in the THP and determined that normal and emergency vehicular access, including access by emergency response agencies, and use of Sonoma County-maintained Neeley and Mays Canyon Roads will not be impeded, nor will public safety be compromised. The plan submitter accepted CAL FIRE's PHI recommendations to post and comply with a speed limit of 20-mph on Mays Canyon and Neeley Roads; employ a pilot car on Neeley Road to lead all log truck traffic from the plan area to Highway 116; and to identify in Section II, Item 38 of the THP the days and hours of timber operations that log trucks will be hauling on both Neeley and Mays Canyon Roads. These public safety measures are comparable to those commonly employed for public road construction or repair projects, and log trucks can be viewed as roughly analogous to the heavy construction equipment and vehicles utilized for such purposes. Item 38 of the THP also notes that though there is a school bus stop on Neeley Road, the bus stop is not in use currently by either the Gravenstein or Guerneville School Districts.

As discussed in Section IV of the THP, Neeley and Mays Canyon Roads have both been used for log hauling from the project area during three previous harvest entries in 1998, 2000, and 2001, respectively. Proposed log hauling will be limited to an estimated 4-5 truckloads per day on average, on weekdays only, with no more than an estimated 1-2 trips occurring during peak traffic hours. The total number of truckloads estimated for the project is approximately 100. The Traffic Assessment contained in Section IV of the THP specifies that all log loads and trucks entering and leaving the THP area will comply with all California Department of Transportation rules and regulations and will not be using bridges or roads with posted weight limits or restrictions.

Timber operations utilizing unevenaged rather than evenaged regeneration methods typically result in harvest entry cycles of between ten and twenty years apart. The last harvest entry for the subject ownership occurred in 2001. Timber operations proposed in the THP are estimated to occur over the course of several weeks after which they won't likely occur again for another ten to twenty years. Just as public infrastructure repair or reconstruction to roads and utilities can be viewed as a major interruption to one's commute, so too can following one of five log trucks from the THP area to the first main traffic artery. However, the actual impact in measurable time spent delayed by such activities is temporally minor and punctuated by far longer periods in which no such nuisance occurrence exists.

7. CONCERN: Water Quality Impacts from Erosion and Sedimentation

The public has expressed concerns that the proposed THP could result in adverse impacts to the Russian River Watershed related to erosion and sedimentation from the project area.

RESPONSE: As stated on page 103 of the THP: "*The Russian River watershed was listed on the 1998 303(d) list by the State of California as required by Section 303(d) of the Clean Water Act. This list describes water bodies that do not fully support all beneficial uses or are not meeting the water quality objectives. It also describes the pollutant(s) for each water body that limits(s) its use or prevent(s) attainment of its water quality objectives. As required by Section 303(d), a Total Maximum Daily Load (TMDL) must be developed for water bodies on the 303(d) list. For the Russian River watershed, the listing was the result of water quality problems related to sedimentation and temperature throughout the watershed*."

Sedimentation and temperature are known impairments to the Russian River. The North Coast Regional Water Quality Control Board (NCRWQCB), a trustee agency participant in the THP review process, has a unique role in that they provide the State Water Resources Control Board and United States Environmental Protection Agency with findings and recommendations for enhancement of beneficial uses of water, but are also responsible for water code enforcement when findings lead to identified water quality violations.

The NCRWQCB was a participant in the PHI that occurred on 7/24/2020. Within his background preamble (Page 2), Engineering Geologist Izaac Russo states the following in the NCRWQCB PHI Report:

> *The entire Russian River watershed is impaired for sediment and temperature. Recent data show a pathogen impairment throughout the watershed, as well.*
>
> *Water quality studies conducted in the Russian River and its tributary creeks, indicate a widespread problem with bacteria and other evidence of fecal waste discharge, which represent a potential threat to the health of the river ecosystem and the people who visit it. Fecal indicator bacteria can indicate the presence of pathogenic organisms that are found in warm-blooded animal waste. The North Coast Regional Water Quality Control Board has developed the Russian River Pathogen TMDL to address the pathogen impairment and sources of fecal waste pollution in the Russian River Watershed.*
>
> *In 2004, the Regional Water Board adopted a Sediment TMDL Implementation Policy (Resolution RI-2004-0087), which states that Regional Waterboard staff shall control sediment pollution by using existing permitting and enforcement tools. The goals of the Policy are to control sediment waste discharges to impaired water bodies so that the TMDLs are met, sediment water quality objectives are attained and beneficial uses are no longer impaired by sediment.*
>
> *In January 2012, the Regional Water Board also adopted Resolution R1-2012-0013, Policy Statement for Implementation of the Water Quality Objective for Temperature in the North Coast Region (Policy Statement). In March 2014, the Regional Water Board adopted a basin plan amendment to incorporate the approach articulated in the Policy Statement. The approach encourages combining TMDL requirements with region-wide nonpoint source programs for efficiency and to avoid duplicative regulation. Often, the*

same management measures can address nonpoint source water quality concerns regardless of whether the waterbody is impaired. Sediment conditions interact with water in many ways that can affect water temperatures. Therefore, practices implemented to prevent and minimize elevated sediment discharges may also help control elevated water temperatures.

Generally, timber operations on non-federal lands that fully and properly implement the Forest Practice Rules that provide water quality protection, and comply with the provisions of applicable Regional Water Board permits, will contribute to implementation of sediment and temperature TMDLs, with additional protection measures necessary to protect the beneficial uses of water incorporated into THPs for site-specific conditions when recommended by the Regional Water Board.

Section 5 of the THP includes an Erosion Control Plan (ECP) as required by the General WDR, which consists of an inventory of Controllable Sediment Discharge Sources (CSDS), proposed corrective action for each site, a prioritization for treatment based on potential impacts to water quality, and a schedule for implementation of corrective action based on the prioritization. CSDS are defined in the General WDR as sites or locations, both existing and those created by proposed timber harvest activities, within the Project area that meet all the following conditions:

1. is discharging or has the potential to discharge sediment to waters of the state in violation of applicable water quality requirements or other provisions of these General WDRs,
2. was caused or affected by human activity, and
3. may feasibly and reasonably respond to prevention and minimization management measures.

During my field inspection and office review of the THP, I focused on addressing measures to prevent and minimize the discharge of earthen materials from controllable sediment sources, potential discharges of treated wastewater, as well as the maintenance of sufficient canopy around waterbodies to protect onsite and downstream beneficial uses of water. The purpose of my participation in the PHI was to evaluate the adequacy of the proposed management practices to meet narrative water quality standards established in the Basin Plan.

The THP provides the following mitigations to reduce erosion and sedimentation impacts to a level that is less than significant:

- THP Section II, Item #18 (pages 20 – 25) provides descriptions of erosion control treatments and timing; watercourse crossing removal specifications; drainage structure installation specifications; waterbreak spacing specifications; drainage facility installation deadlines; yarding, construction, and erosion control maintenance schedules; and restrictions on log hauling based on the time of year and weather conditions.
- THP Section II, Item #19 – 21 (pages 26 – 28) limits ground-based operations on unstable areas to existing skid trails, and provides limitations and mitigations for ground-based operations on slopes greater than 65% and on slopes greater than 50% with a High or Extreme EHR.

- THP Section II, Item #23 (pages 29 – 34) restricts timber operations during the Extended Wet Weather Period, and limits ground-based yarding during the Winter Period.
- THP Section II, Item #24 (pages 35 – 38) proposes no new road construction or landing construction, discloses the presence of Significant Existing and Potential Erosion Sites, and provides treatments for these sites (pages 39 – 48.1). The treatments include culvert replacements designed for a 100-year storm event.
- THP Section II, Item #26 (pages 51 – 54) provides WLPZ for Class I and Class II watercourses, and ELZ's for Class III and Class IV watercourses, wet areas, and seeps.
- THP Section II, Item #27 (pages 66-72) provides mitigation measures to reduce sedimentation associated with in-lieu skid trail and landing usewith corresponding explanation and justification for the proposed practices in Section III.
- THP Section V, Erosion Control Plan describes the monitoring, inspection and reporting of controllable sediment discharge sites within the plan area and their status throughout the life and maintenance period of the THP. Erosion Control Plans are enrolled with the North Coast Regional Water Quality Control Board before road-related operations occur.

The THP conforms to the water quality protection standards of both the 2009 "Anadromous Salmonid Protection" (ASP) rules and the 2013 "Road Rules" package for roads, landings, and watercourse crossings. The ASP rules were adopted by the State Board of Forestry and Fire Protection (BOF) to protect, maintain, and improve riparian habitats for state and federally listed anadromous salmonid species. These rules are permanent and replaced the interim Threatened or Impaired Watershed Rules (T/I Rules) which were originally adopted in July 2000 and subsequently readopted six times.

The 2013 Forest Practice "Road Rules" were developed over a 14-year period. The BOF's primary objectives in adopting the new road rules were to ensure that the road-related Forest Practice Rules are adequate to prevent adverse impacts to beneficial uses of water, and to consolidate all road-related Forest Practice Rules into a logical, consistent order located within one portion of the Forest Practice Rulebook for ease of reference and understanding by all.

CAL FIRE as the Lead Agency, with concurrence of the interagency Review Team members, determined the proposed timber operations are appropriately protective of watercourses and water quality based on the measures in the THP and conformance with both the ASP and Road Rules.

8. CONCERN: Invasive Exotic Aquatic Plants [including algae]

Commenters expressed concern that timber harvesting as proposed in this THP could result in increased occupancy of invasive exotic aquatic plants, including algal blooms, in the Russian River and its tributaries as a result of reduced shade canopy and reduced filtration of nutrients, and increased erosional sediment delivery to the stream system.

RESPONSE: Please refer to response to Concern #7 regarding protection of water quality in the THP.

Invasive exotic aquatic plants, including algae, can be found throughout California. Some have been inadvertently introduced, while others are thought to have arrived through popular aquarium and other commercial plant sales. Invasive plants like water hyacinth and water primrose identified by at a commenter can quickly choke streams, impact recreational activities, and persist despite active attempts to control their occurrence. It is possible climate change could result in even more favorable conditions than these invasives already experience in the Mediterranean climate of California.

Harmful algal blooms can be dangerous or lethal to humans, pets, and wildlife as was noted by at least one commenter. These algal blooms are the result of a variety of factors. Climate change may also be increasing the presence of toxic cyanobacteria. The bacteria prefer standing water, low turbidity, and warm temperatures. As the climate begins to warm and more water evaporates into the atmosphere or is siphoned away for human use, rivers slow or even become stagnant in some areas. The stagnation allows the water to quickly warm and let increased light pass through the water, creating optimal growing conditions for algae.

Timber harvest operations in California can best guard against encouragement of invasive aquatic exotic plant expansion by mitigating the potential for impacts to stream temperatures, unfettered nutrient transport, and sediment delivery that reduces streamflow. The Department has concluded that the selection silviculture system and WLPZ protections, including adherence to the canopy retention standards of the "Anadromous Salmonid Protection" (ASP) rules discussed elsewhere in this Official Response document [14 CCR § 916.9, *et seq*] will sufficiently mitigate the potential for timber harvest-related instream temperature and sediment increases.

The THP has been designed to minimize erosion and sediment transport to the stream system through adherence with the Forest Practice "Road Rules" discussed elsewhere in this Official Response document [14 CCR § 923, *et seq*]. The roads are all existing with the exception of a short 90' segment proposed for reconstruction; cable yarding will be used on steeper slopes, and tractor yarding is proposed on gentler slopes with limited exceptions for use of existing, stable skid trail sections on steeper slopes. Use of four existing landings within the WLPZ was evaluated during the PHI field review. The THP provides mitigations for these potential impacts through erosion control measures in Item 18, winter period restrictions in Item 23, seasonal road construction and maintenance standards in Item 24, and watercourse protection in Item 26. Note that the THP does not propose using phosphate fertilizers and that a significant amount of forest cover and ground cover will remain post-operations to filter nutrients.

A representative of the NCRWQCB participated in the PHI field review of the THP area and made several recommendations that were incorporated into the THP. Among the incorporated recommendations was a pollution prevention plan contained in Section V of the THP to address removal of existing anthropogenic pollutants that could be discharged into watercourses. The presence of invasive exotic aquatic plants in watercourses reviewed during the PHI was not identified in the NCRWQCB PHI Report. The Department has concluded that the THP will not increase the likelihood of invasive exotic aquatic plants through THP mitigations to prevent temperature and sediment impacts, including compliance with the Erosion Control Plan required by the NCRWQCB Order No. R1-2204-0030, Waste Discharge Requirements for Discharges Related to Timber Harvesting on Non-Federal Lands in the North Coast Region (General WDR) that.

9. CONCERN: Impacts to Recreation, Tourism and the Economy

The public has expressed concerns that the proposed THP could have adverse impacts on recreation, tourism, and/or the local economy.

RESPONSE: The cumulative recreational impacts assessment in Section IV of the THP (page 191) specifically evaluates the potential of the proposed timber operations to cause or add to significant adverse cumulative impacts to recreation. The assessment finds that the operations proposed under the Plan and application of the FPRs do not have a reasonable potential to join with the impacts of any other project to cause, add to, or constitute significant adverse cumulative impacts to recreation:

> *The harvest area is adjacent to the Russian River, an area commonly used for recreation. There is an unusually high number of homeless encampments and trespassers within the project area. Since the harvest area is not open to public use, and the Core Zone of the Russian River is not proposed for harvest this project will have an insignificant effect on the Recreational Assessment Area. The Russian River is commonly used for recreational activities such as swimming, fishing, and kayaking. Johnson beach, a popular beach destination, and Northwood Golf Course are also in the recreation assessment area. No recreational special treatment areas have been designated by the Board of Forestry within or adjacent to the plan area. Timber operations will be conducted primarily during the week on private property and therefore will not impact significant numbers of people. No known past or future projects within the Recreational Assessment Area, when combined with the potential effects of this project, are expected to significantly impact recreational opportunities.*

A multiagency review team consisting of CAL FIRE, CDFW, CGS, NCRWQCB and RRCSD conducted a PHI of the THP area on July 24, 2020. Potential impacts to tourism were evaluated during the PHI. In response to public comments (received prior to the PHI) regarding impacts to tourism, the PHI Report (dated July 31, 2020) states:

> *…impacts to tourism… were evaluated during the review of this plan and during the PHI by a multi-agency review team… Considering the mitigation and proposed prescriptions, significant adverse impacts to the community (such as tourism) is not anticipated.*

The PHI Report also calls attention to the fact that the proposed THP is located on Timberland Production Zone (TPZ) property:

> *The property is zoned TPZ. Such zoning is dedicated to the growing and harvesting of timber. Pursuant to 14 CCR 897(a), there is a legal presumption that timber harvesting is expected to and will occur on such lands.*

As noted elsewhere in this Official Response document, the Timber Yield Tax is an excise tax paid to the State Department of Tax and Fee Administration by forest landowners when harvested timber is sold to another party. The tax revenue generated through timber sales is allocated back to the county where the timber was harvested. These taxes help fund local government activities and responsibilities. Tax revenues generated by this timber harvest could be used by Sonoma County to help fund ongoing maintenance and repair of County-maintained road networks. Additionally, lumber and other wood products generated from timber sales are subject to a 1% retail sales tax that in turn funds the Timber Regulation Forest Restoration Fund. This Fund is administered by the California Natural Resources Agency to support enforcement of environmental regulations, including the Forest Practice Rules. The Fund also supports Forest Practice Rule effectiveness monitoring and forest restoration activities.

The demand for lumber and other wood products in California has for decades been exported to other states and countries, however unknowingly by consumers, without recognition of the economic and climate-related consequences. As has been illustrated in the wake of excessive private and federal timberland impacts in the past several catastrophic fire seasons, California's labor and wood utilization infrastructure has contracted to the point of stark insufficiency for the enormous amount of work necessary to rebuild communities and restore forested landscapes.

Often lost in the calculus of recreation and tourism opportunities in the forested lands of California is that the State's Forest Practice Rules ensure a generally continuous and visible forested landscape in which to recreate and tour. Periodic selective harvest entries, like those carried out on the subject ownership in 1998, 2000, and 2001, and the one proposed under this THP leave an intact forest still visible when timber operations are complete. These harvest entries provide periodic Timber Yield Tax payments to local governments, lumber and other wood products needed by homebuilders and homeowners alike, and revenue to the timberland owner(s) from which to support continued retention of visually pleasing forest conditions between harvests.

The concerns that the proposed THP could have adverse impacts on recreation, tourism and/or the local economy are mostly interconnected with other concerns about wildfire risk and hazard, flooding, the water quality of the Russian River, visual impacts and noise impacts. These concerns have been thoroughly considered and addressed elsewhere in this Official Response document. The concerns that the proposed THP could have adverse impacts on recreation, tourism and/or the local economy, which are not interconnected with other concerns are unsubstantiated.

CAL FIRE has evaluated the THP's potential impacts to recreation, tourism and the local economy, and determined they will be less than significant.

10. CONCERN: Herbicides

The public expressed concerns about the use of herbicides under this THP.

RESPONSE: Herbicides are not proposed in this THP.

Review Team Question #6 from the First Review Report, dated July 9, 2020, asked the RPF to:

> *Please revise for clarity whether herbicide use will occur within this THP.*

The RPF Response, received on July 22, 2020, states:

> *No herbicide use is proposed within this THP. Please see revised pages 199, 200, 201, and 211.*

These revised pages removed inapplicable analysis of herbicide use from the Cumulative Impacts Assessment. Accordingly, herbicide use is not mentioned anywhere in the THP.

A multiagency review team consisting of CAL FIRE, CDFW, CGS, NCRWQCB and RRCSD conducted a PHI of the THP area on July 24, 2020. In response to public comment received prior to the conclusion of the PHI, specifically regarding herbicide treatments, the PHI Report, dated July 31, 2020, states:

> *Much of the public comment submitted prior to the conclusion of the PHI focuses on herbicide treatment. The THP has been revised and no herbicide treatment is proposed as part of the THP.*

11. CONCERN: Climate Change and Carbon Sequestration Impacts

The public has expressed concerns that the proposed THP could have adverse impacts on climate change and/or carbon sequestration.

RESPONSE:

Forest Practice Regulatory Background

The Z'berg-Nejedly Forest Practice Act (Division 4, Chapter 8, PRC) establishes the necessity for Timber Harvesting Plans to conduct commercial timber operations and establishes the Board of Forestry and Fire Protection as the regulatory authority for promulgation of regulations to, among other things:

> "…encourage prudent and responsible forest resource management calculated to serve the public's need for timber and other forest products, while giving consideration to the public's need for watershed protection, fisheries and wildlife, sequestration of carbon dioxide, and recreational opportunities alike in this and future generations."

The FPA was initially adopted in 1973. Since that time, the BOF has enacted numerous rules to support the Act's intent related to sustained yield and has adopted conservation standards for post-harvest stocking that meet or exceed the minimum resource conservation standards specified in PRC §4561 of the Act. The Board has established rules related to demonstration of Timberland Productivity, Sustained Forestry Planning (14 CCR § 933.10), demonstration of Maximum Sustained Productivity (14 CCR § 933.11), and has defined sustained yield and Long Term Sustained Yield (14 CCR § 895.1). Under these various rule provisions, landowners with more than 50,000 acres of timberland are required to demonstrate long-term sustained yield under the management regime they have selected for the ownership. Under this provision, the Department has received and approved long term sustained yield documents covering approximately 3.2 million acres of timberland. For smaller industrial and nonindustrial landowners, they must comply with minimum retention standards specified in the Rules as established by the Board, although they may choose a higher standard.

More recently, amendments were made to the FPA to clarify and refine other mandates related to the assessment of Greenhouse Gas (GHG) impacts:

> *4512.5. Sequestration of carbon dioxide; legislative findings and declarations.*
> *The Legislature finds and declares all of the following:*
> *(a) State forests play a critical and unique role in the state's carbon balance by sequestering carbon dioxide from the atmosphere and storing it long term as carbon.*
> *(b) According to the scoping plan adopted by the State Air Resources Board pursuant to the California Global Warming Solutions Act of 2006 (Division 25.5 (commencing with Section 38500) of the Health and Safety Code), the state's forests currently are an annual net sequesterer of five million metric tons of carbon dioxide (5MMTCO2). In fact, the forest sector is*

the only sector included in the scoping plan that provides a net sequestration of Greenhouse Gas emissions.

(c) The scoping plan proposes to maintain the current 5MMTCO2 annual sequestration rate through 2020 by implementing "sustainable management practices," which include potential changes to existing forest practices and land use regulations.

(d) There is increasing evidence that climate change has and will continue to stress forest ecosystems, which underscores the importance of proactively managing forests so that they can adapt to these stressors and remain a net sequesterer of carbon dioxide.

(e) The Board, the Department, and the State Air Resources Board should strive to go beyond the status quo sequestration rate and ensure that their policies and regulations reflect the unique role forests play in combating climate change.

4551. Adoption of district forest practice Rules and regulations; factors considered in Rules and regulations governing harvesting of commercial tree species; funding.

(a) …

(b) (1) The Board shall ensure that its Rules and regulations that govern the harvesting of commercial tree species, where applicable, consider the capacity of forest resources, including above ground and below ground biomass and soil, to sequester carbon dioxide emissions sufficient to meet or exceed the state's Greenhouse Gas reduction requirements .for the forestry sector, consistent with the scoping plan adopted by the State Air Resources Board pursuant to the California Global Warming Solutions Act of 2006 (Division 25.5 (commencing with Section 38500) of the Health and Safety Code).

(2) …

Technical Rule Addendum #2, Item G:

G. GREENHOUSE GAS (GHG) IMPACTS

Forest management activities may affect GHG sequestration and emission rates of forests through changes to forest inventory, growth, yield, and mortality. Timber Operations and subsequent production of wood products, and in some instances energy, can result in the emission, storage, and offset of GHGs. One or more of the following options can be used to assess the potential for significant adverse cumulative GHG Effects:

1. *Incorporation by reference, or tiering from, a programmatic assessment that was certified by the Board, CAL FIRE, or other State Agency, which analyzes the net Effects of GHG associated with forest management activities.*
2. *Application of a model or methodology quantifying an estimate of GHG emissions resulting from the Project. The model or methodology should at a minimum consider the following:*

a. Inventory, growth, and harvest over a specified planning horizon
b. Projected forest carbon sequestration over the planning horizon
c. Timber Operation related emissions originating from logging equipment and transportation of logs to manufacturing facility
d. GHG emissions and storage associated with the production and life cycle of manufactured wood products.

3. *A qualitative assessment describing the extent to which the Project in combination with Past Projects and Reasonably Foreseeable Probable Future Projects may increase or reduce GHG emissions compared to the existing environmental setting. Such assessment should disclose if a known 'threshold of significance' (14 CCR § 15064.7) for the Project type has been identified by the Board, CAL FIRE or other State Agency and if so whether or not the Project's emissions in combination with other forestry Projects are anticipated to exceed this threshold.*

California Legislative and Administrative Background

Over the years, various efforts by the California Legislature and the Governor to quantify greenhouse gas emissions and develop strategies for avoiding potential negative impacts have occurred. A summary relevant to this THP is provided below:

1. Assembly Bill 32 (AB32), the Global Warming Solutions Act of 2006, was signed into law by Governor Schwarzenegger and represents a comprehensive approach to address climate change. AB32 establishes a statewide goal to reduce greenhouse gas emissions to 1990 levels by 2020. The California Air Resources Board (CARB or ARB) is the lead agency for implementing AB32.

   The scoping plan adopted by the ARB in December of 2008 (CARB, 2008) establishes a general roadmap that California will take to achieve the 2020 goals. Targets for the Forestry Sector were established under the "Sustainable Forests" section of the Scoping Plan. The "Sustainable Forest" element was recognized as a carbon sink based on the current carbon inventory for the Forest Sector and sequestration benefits attributable to forests. Specific recommendations for the sector included:

   - Maintaining the current 5 $MMTCO_2E$ reduction target through 2020 by ensuring that current carbon stock is not diminished over time.
   - Monitoring of carbon sequestered
   - Improving greenhouse gas inventories.
   - Determining actions needed to meet the 2020 targets.
   - Adaptation
   - Focusing on sustainable land-use activities.

   Wildfire threat and loss to conversions were recognized as potential threats to the Forest Sector in relation to achieving sector goals.

2. AB 1504 (Chapter 534, Statutes of 2010, Skinner): Requires the Board of Forestry and Fire Protection to ensure that its rules and regulations that govern timber harvesting consider the capacity of forest resources to sequester carbon dioxide emissions sufficient to meet or exceed the state's GHG reduction target for the forestry sector, consistent with the AB 32 Climate Change Scoping Plan goal of 5 million metric tons CO2 equivalent sequestered per year. Currently, these reports are principally prepared by Glenn A. Christensen.

3. SB 1122 (Chapter 612, Statutes of 2012, Rubio): This bill requires production of 50 megawatts of biomass energy using byproducts of sustainable forest management from fire threat treatment areas as determined by CAL FIRE.

4. AB 417 (Chapter 182, Statutes of 2015, Dahle): This bill provides the Board of Forestry and Fire Protection with additional flexibility in setting post timber harvest tree stocking standards in order to, in part, contribute to specific forest health and ecological goals as defined by the Board. The 2020 Forest Practice Rules include the Board's revisions to the "Resource Conservation Standards" under 14 CCR §932.7.

5. In 2015, Governor Brown issued Executive Order B-30-15 establishing a GHG reduction target for California of 40 percent below 1990 levels by 2030 and 80 percent by 2050 to help limit global warming to 2 degrees Celsius or less as identified by the IPCC to avoid potentially catastrophic climate change impacts. In 2016, the California Legislature passed Senate Bill 32 (Chapter 249, Statutes of 2016), which codifies the Governor's Executive Order. CARB updated the AB 32 Scoping Plan in 2017 to reflect the 2030 target.

6. SB 859 (Chapter 368, Statutes of 2016, Committee on Budget and Fiscal Review): Among other things, calls for CARB, in consultation with CNRA and CAL FIRE, to complete a standardized GHG emissions inventory for natural and working lands, including forests by December 31, 2018 (CARB, 2018).

7. SB 1386 (Chapter 545 Statutes of 2016, Wolk): Declares the policy of the state that the protection and management of natural and working lands, including forests, is an important strategy in meeting the state's greenhouse gas reduction goals, and requires all state agencies, departments, boards, and commissions to consider this policy when revising, adopting, or establishing policies, regulations, expenditures, or grant criteria relating to the protection and management of natural and working lands.

8. (2018) Accompanying release of the Forest Carbon Plan, Governor Brown's Executive Order B-52-18 on forest management emphasizes the importance of implementing the Forest Carbon Plan. Executive Order B-55-18 also calls for California to achieve carbon neutrality no later than 2045, with carbon sequestration targets to be set in the Natural and Working Lands to help achieve this goal.

These laws, regulations and executive orders form the context under which CAL FIRE reviews plans for impacts to GHG emissions and sequestration.

National and State-Level GHG Assessments

A variety of assessments have been conducted to calculate the GHG emissions and rates of sequestration related to management of natural and working lands. Due to the rapidly evolving

science, accounting methods and policy directions from the executive and legislative branches, specific accounting that conforms from study to study has yet to be achieved. The overall trends, however, do provide meaningful insight within which to make assumptions about how an individual THP fits into the overall objectives of assessing and mitigating potential negative impacts from GHG emissions.

USEPA Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2018 (EPA, 2020):
Summary: Forest management falls under the "Land Use, Land Use Change, and Forestry" (abbreviated LULUCF) for consistent reporting with other international efforts. Sequestrations at the national level offset approximately 12% of total US GHG Emissions annually and this carbon pool remains relatively stable over time.

- In 2018, total gross U.S. greenhouse gas emissions were 6,676.6 million metric tons of carbon dioxide equivalent (MMT CO2 Eq). Total U.S. emissions have increased by 3.7 percent from 1990 to 2018, down from a high of 15.2 percent above 1990 levels in 2007. Emissions increased from 2017 to 2018 by 2.9 percent (188.4 MMT CO2 Eq.). Net emissions (including sinks) were 5,903 MMT CO2 Eq. Overall, net emissions increased 3.1 percent from 2017 to 2018 and decreased 10.2 percent from 2005 levels as shown in Table ES-2. The Fdeferreddecline reflects many long-term trends, including population, economic growth, energy market trends, technological changes including energy efficiency, and energy fuel choices. Between 2017 and 2018, the increase in total greenhouse gas emissions was largely driven by an increase in CO2 emissions from fossil fuel combustion. The increase in CO2 emissions from fossil fuel combustion was a result of multiple factors, including increased energy use from greater heating and cooling needs due to a colder winter and hotter summer in 2018 compared to 2017.

- Conversely, U.S. greenhouse gas emissions were partly offset by carbon (C) sequestration in forests, trees in urban areas, agricultural soils, landfilled yard trimmings and food scraps, and coastal wetlands, which, in aggregate, offset 12.0 percent of total emissions in 2018.

- Within the United States, fossil fuel combustion accounted for 92.8 percent of CO2 emissions in 2018. There are 25 additional sources of CO2 emissions included in the Inventory (see Figure ES-5). Although not illustrated in the Figure ES-5, changes in land use and forestry practices can also lead to net CO2 emissions (e.g., through conversion of forest land to agricultural or urban use) or to a net sink for CO2 (e.g., through net additions to forest biomass).

- Land Use, Land-Use Change, and Forestry (LULUCF)

    - Overall, the Inventory results show that managed land is a net sink for CO2 (C sequestration) in the United States. The

primary drivers of fluxes on managed lands include forest management practices, tree planting in urban areas, the management of agricultural soils, landfilling of yard trimmings and food scraps, and activities that cause changes in C stocks in coastal wetlands. The main drivers for forest C sequestration include forest growth and increasing forest area, as well as a net accumulation of C stocks in harvested wood pools.

- The LULUCF sector in 2018 resulted in a net increase in C stocks (i.e., net CO2 removals) of 799.6 MMT CO2 Eq. (Table ES-5). This represents an offset of 12.0 percent of total (i.e., gross) greenhouse gas emissions in 2018… Between 1990 and 2018, total C sequestration in the LULUCF sector decreased by 7.1 percent, primarily due to a decrease in the rate of net C accumulation in forests and Cropland Remaining Cropland, as well as an increase in CO2 emissions from Land Converted to Settlements.
- Forest fires were the largest source of CH4 emissions from LULUCF in 2018, totaling 11.3 MMT CO2 Eq. (452 kt of CH4).
- Forest fires were also the largest source of N2O emissions from LULUCF in 2018, totaling 7.5 MMT CO2 Eq. (25 kt of N2O). Nitrous oxide emissions from fertilizer application to settlement soils in 2018 totaled to 2.4 MMT CO2 Eq. (8 kt of N2O).

CARB AB32 Scoping Plan (CARB, 2017) :

Summary: At the state level, all sectors are cumulatively on track to meet the 2020 targets for GHG reductions and sequestration. The Natural and Working Lands in the state represent a key sector for the long-term storage of carbon in vegetation and soils. During the period of 2001-2010, disturbances (primarily in the form of wildfire) caused significant losses to the total stored carbon. Meeting state goals will require multi-owner and jurisdictional cooperation as well as trade-offs between competing interests.

- California's natural and working landscapes, like forests and farms, are home to the most diverse sources of food, fiber, and renewable energy in the country. They underpin the state's water supply and support clean air, wildlife habitat, and local and regional economies. They are also the frontiers of climate change. They are often the first to experience the impacts of climate change, and they hold the ultimate solution to addressing climate change and its impacts. In order to stabilize the climate, natural and working lands must play a key role.

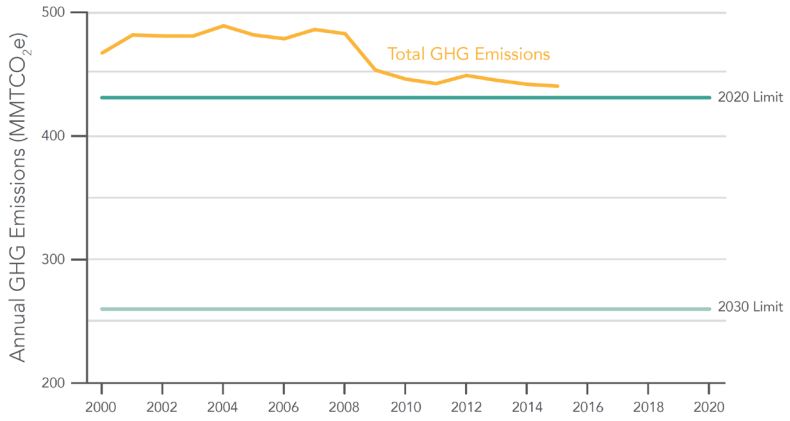
- Work to better quantify the carbon stored in natural and working lands is continuing, but given the long timelines to change landscapes, action must begin now to restore and conserve these lands. We should aim to manage our natural and working lands in California to reduce GHG emissions from business-as-usual by at

least 15-20 million metric tons in 2030, to compliment the measures described in this Plan.

- California's forests should be healthy carbon sinks that minimize black carbon emissions where appropriate, supply new markets for woody waste and non-merchantable timber, and provide multiple ecosystem benefits.

- AB 32 directs CARB to develop and track GHG emissions and progress toward the 2020 statewide GHG target. California is on track to achieve the target while also reducing criteria pollutants and toxic air contaminants and supporting economic growth. As shown in Figure 1, in 2015, total GHG emissions decreased by 1.5 $MMTCO_2e$ compared to 2014, representing an overall decrease of 10 percent since peak levels in 2004. The 2015 GHG Emission Inventory and a description of the methodology updates can be accessed at: www.arb.ca.gov/cc/inventory/inventory .

FIGURE 1: CALIFORNIA GHG INVENTORY TREND



- Carbon dioxide is the primary GHG emitted in California, accounting for 84 percent of total GHG emissions in 2015, as shown in Figure 2 below. Figure 3 illustrates that transportation, primarily on-road travel, is the single largest source of CO2 emissions in the State.. When these emissions sources are attributed to the transportation sector, the emissions from that sector amount to approximately half of statewide GHG emissions. In addition to transportation, electricity production, and industrial and residential sources also are important contributors to CO2

- Increasing Carbon Sequestration in Natural and Working Lands
  - California's natural and working lands make the State a global leader in agriculture, a U.S. leader in forest products, and a global biodiversity hotspot. These lands

support clean air, wildlife and pollinator habitat, rural economies, and are critical components of California's water infrastructure. Keeping these lands and waters intact and at high levels of ecological function (including resilient carbon sequestration) is necessary for the well-being and security of Californians in 2030, 2050, and beyond. Forests, rangelands, farms, wetlands, riparian areas, deserts, coastal areas, and the ocean store substantial carbon in biomass and soils.

- Natural and working lands are a key sector in the State's climate change strategy. Storing carbon in trees, other vegetation, soils, and aquatic sediment is an effective way to remove carbon dioxide from the atmosphere. …We must consider important trade-offs in developing the State's climate strategy by understanding the near and long-term impacts of various policy scenarios and actions on our State and local communities.

- Recent trends indicate that significant pools of carbon from these landscapes risk reversal: over the period 2001–2010 disturbance caused an estimated 150 MMT C loss, with the majority– approximately 120 MMT C– lost through wildland fire.

- California's climate objective for natural and working lands is to maintain them as a carbon sink (i.e., net zero or negative GHG emissions) and, where appropriate, minimize the net GHG and black carbon emissions associated with management, biomass utilization, and wildfire events.

- Decades of fire exclusion, coupled with an extended drought and the impacts of climate change, have increased the size and intensity of wildfires and bark beetle infestations; exposed millions of urban and rural residents to unhealthy smoke-laden air from wildfires; and threatened progress toward meeting the state's long-term climate goals. Managing forests in California to be healthy, resilient net sinks of carbon is a vital part of California's climate change policy.

- Federally managed lands play an important role in the achievement of the California climate goals established in AB 32 and subsequent related legislation and plans. Over half of the forestland in California is managed by the federal government, primarily by the USDA Forest Service Pacific Southwest Region, and these lands comprise the largest potential forest carbon sink under one ownership in the state... The State of California must continue to work

closely and in parallel to the federal government's efforts to resolve these obstacles and achieve forest health and resilience on the lands that federal agencies manage.

California Forest Carbon Plan (Forest Climate Action Team, 2018)

Summary: Current estimated sequestration for the entire forest sector is 32.8 MMT CO2e/year, which is 6.56 times more than the current target of 5 MMT per year. Regional, landscape or watershed level assessments are appropriate scales for examining rates of GHG emissions and sequestration. Wildfire remains the single largest source of carbon loss and remains the largest source of black carbon emissions. Although there are trade-offs with in-forest carbon stores, sustainably managed working forests can further provide climate mitigation benefits.

- When all forest pools are considered, California's forests are sequestering 34.4 MMT CO2e/year, and when land-use changes and non-CO2 emissions from wildfires are accounted for, the total net sequestration is 32.8 MMT CO2e/year.

Table 16. Statewide Average Annual Growth, Removals, Mortality, and Net Change for the Above Ground Live Tree Pool by Disturbance, Owner, and Land Status on Plots Initially Measured between 2001-2005 and Re-Measured between 2011-2015 (thousand metric tons carbon dioxide equivalent per year).

	UNRESERVED FORESTLAND			RESERVED FORESTLAND	ALL FORESTLAND[2]
	Private, Corporate	Private, Non-Corporate	USDA Forest Service	USDA Forest Service	Total
	thousand metric tons CO2 equivalent per year				
Gross tree growth	18,554	13,772	25,983	7,188	**73,253**
Removal - harvest	-10,664	-1,476	-1,467	-22	**-13,645**
Mortality – fire killed	-278	-449	-6,077	-4,689	**-12,566**
Mortality – cut and fire[1]	-466	-49	-326	0	**-842**
Mortality – insects and disease	-488	-435	-3,162	-1,039	**-5,728**
Mortality – natural/other	-2,525	-2,988	-6,743	-2,203	**-16,543**
Net live tree	4,133	8,375	8,208	-765	**23,929**
				95% confidence interval	**4,575**

[1]Mortality – Cut and fire: plots where tree mortality has occurred due to both harvest and fire.

[2]Includes other public forestland.

Source: USDA Forest Service FIA.[267]

- The key findings of the [Forest Carbon Plan] include:
  - California's forested landscapes provide a broad range of public and private benefits, including carbon sequestration.
  - The long-term impacts of excluding fire in fire-adapted forest ecosystems are being manifested in rapidly deteriorating forest health, including loss of forest cover in some cases.
  - Extreme fires and fire suppression costs are increasing significantly, and these fires are a growing threat to public health and safety, to homes, to water supply and water quality, and to a wide range of other forest benefits, including ecosystem services.

  - Reducing carbon losses from forests, particularly the extensive carbon losses that occur during and after extreme wildfires in forests and through uncharacteristic tree mortality, is essential to meeting the state's long-term climate goals.
  - Fuel reduction in forests, whether through mechanical thinning, use of ecologically beneficial fire, or sustainable commercial timber harvest to achieve forest health goals, involves some immediate loss of forest carbon, but these treatments can increase the stability of the remaining and future stored carbon.
  - Current rates of fuel reduction, thinning of overly dense forests, and use of prescribed and managed fire are far below levels needed to restore forest health, prevent extreme fires, and meet the state's long-term climate goals.
  - Where forest stands are excessively dense, forest managers may have to conduct a heavy thinning to restore resilient, healthy conditions, which, among other benefits, will subsequently facilitate the reintroduction of prescribed fire as an ecological management tool.
  - Sustainable timber harvesting on working forests can substantially improve the economic feasibility of these treatments to achieve forest health goals at the scale necessary to make an ecologically meaningful difference.
  - Where forestlands have been diminished due to fires, drought, insects, or disease, they should be reforested with ecologically appropriate tree species from appropriate seed sources.
  - The scale and combination of needed treatments and their arrangement across the landscape is likely to be highly variable and dependent on the local setting.
  - The state must work closely with Federal and private landowners to manage forests for forest health, multiple benefits, and resiliency efficiently at a meaningful scale.

- The watershed level has proven to be an appropriate organizing unit for analysis and for the coordination and integrated management of the numerous physical, chemical, and biological processes that make up a watershed ecosystem. Similarly, a watershed can serve as an appropriate reference unit for the policies, actions, and processes that affect the biophysical system, and providing a basis for greater integration and collaboration. Forests and related climate mitigation and adaptation issues operate across these same biophysical, institutional, and social gradients.

  Because of these factors, the Forest Carbon Plan proposes working regionally at the landscape or watershed scale. The appropriate scale of a landscape or watershed to work at will vary greatly depending upon the specific biophysical conditions, land ownership

or management patterns, and other social or institutional conditions.

- Forests are shaped by disturbance and background levels of tree mortality. However, elevated tree mortality from overly dense stand conditions, fire exclusion, lack of or poor forest management practices, and impacts related to drought and climate change can have a substantial effect on the forest carbon balance. Wildfire is the single largest source of carbon storage loss and GHG emissions from forested lands: of the estimated 150 million metric tons of carbon lost from forests from 2001-2010, approximately 120 million metric tons of carbon was lost through wildland fire. Wildfire also is the single biggest source of black carbon emissions. Reducing the intensity and extent of wildland fires through tools such as fuels reduction, prescribed or managed fire, thinning, and sustainable timber management practices is therefore a top priority.

- In addition to fuels reduction and prescribed and managed fire treatments, sustainable commercial timber harvesting on private and public lands, where consistent with the goals of owners or with management designations and done to maximize forest health goals, can play a beneficial role, both in thinning dense forests and financing additional treatments. Although there are trade-offs with in-forest carbon stores, sustainably managed working forests can further provide climate mitigation benefits. Commercial timber harvest within a sustainable management regime to maximizing forest health goals also creates revenue opportunities to fund additional forest treatments and should be seen as a tool in the maintenance of our forests as healthy, resilient net sinks of carbon.

- In order to support the goals of this Forest Carbon Plan, wood and biomass material generated by timber harvesting, forest health, restoration and hazardous fuels treatments must be either utilized productively or disposed of in a manner that minimizes net GHG and black carbon emissions. Timber and other biomass harvest volumes are expected to increase as a result of the forest management activities outlined above. These volumes will include green and dead trees suitable for timber production, smaller-diameter green and dead trees with little traditional timber value, and tops and limbs.

- Specific Rates of Sequestration/Emission by landowner category:

    - Private Corporate Forestland: Private corporate forestland includes both timberland and other forestland. On private corporate forestland growth is high and exceeds removal and mortality, reflecting the practice of sustained yield as required by California's Forest Practice Act and Rules. These

forests are managed to create relatively little annual mortality and the harvested volume is less than forest growth. Rates of removals from harvest and thinning are highest on these lands, but the rate of fire-related mortality is lowest. These forests experience a net gain in carbon at a rate of 0.75 metric tons of CO2e per acre per year, or 4.1 MMT of CO2e per year. In 2012, these lands contributed 70 percent of the total harvest (Figure 16) and are therefore an important contributor to the carbon stored long-term in harvested wood products and reduced emissions from burning wood instead of fossil fuels for energy.

- Private Non-Corporate Forestland: This category represents private ownerships for which timber production may or may not be a primary management objective. The rate of gross growth is high on these lands, while the rate of natural, non-fire related mortality is low. The rate of fire-related mortality is also quite low, although it is higher than on private corporate forestland. As these lands exhibit high growth rates, lower harvest per acre than corporate forestland, and have relatively low levels of mortality, these forest lands see the highest net sequestration rates on the order of 1.33 metric tons of CO2e per acre per year, or 8.4 million metric tons of CO2e per year.

  Private non-corporate forestland has the highest rate of sequestration per acre (Figure 17), and despite making up 10 percent less of the forestland base than USDA Forest Service unreserved forestland, these forests sequester the greatest total amount (Table 16). A net 33 percent increase in carbon stock from private non-corporate forestland came from only 24 percent of the California forestland base (Figure 18, Figure 9). A net 13 percent increase in carbon stock from private corporate forestland came from 15 percent of the forestland base. … Private non-corporate forestlands provided slightly less of a net increase in carbon stocks than all USDA FS forestlands, despite being just half the size.

- Forest carbon is stored in both forest ecosystems and, to a lesser extent, in harvested wood products. The degree to which California forests operate as a sink or source is influenced by land management, weather, and a range of forest health issues (e.g., growth, tree mortality from drought, pest and disease outbreaks, wildfire severity). In recent years, prolonged drought conditions have resulted in elevated tree mortality that is widespread across the southern Sierra. The combination of drought impacts and extensive wildfires has made forests lose significant capacity for storing carbon. For all forestlands, improving forest health and managing to reduce losses from mortality can greatly increase the carbon balance on forestlands. On commercial and other actively

managed forestlands in California, efficient uses of long lasting wood products and residues for energy can yield GHG benefits. Key inventory findings include:

- Based on FIA Program data from 2006-2015, all California forests combined on all ownerships were performing as a net sink and are sequestering carbon at an average rate of 0.79 metric tons of CO2e per acre per year, or 0.22 metric tons of carbon per acre per year.

- Based on FIA Program data from 2006 – 2015, California forests have substantial carbon storage; 1,303 MMT above ground and 734 MMT below ground, for a total of 2,037 MMT.

- Based on remeasurements taken between 2011 and 2015, carbon sequestration in the live tree pool (in-forest) was estimated at 7.4 MMT of CO2e per year on National Forest System unreserved and reserved forestlands, 4.1 MMT on private corporate forestland, 8.4 MMT on private noncorporate timberlands, and 4.0 MMT on other public lands. The net change in the live tree pool across all forestlands is estimated at 23.9 MMT of CO2e per year.

- When other forest pools, soils, non-GHG emissions from wildfire, and changes from land-use are accounted for, the net change is 32.8 MMT CO2e per year, meeting the AB 1504 goal of sequestering 5 MMT CO2e per year, assuming the contribution of flux associated with wood products does not drastically lower rates.

- On a per-acre basis, conifer forest types have enormous carbon capture and storage potential.
- FIA Program data suggest that on private forestland growth is outpacing losses from harvest and mortality (excluding wood product storage), and exceeds that of National Forest System lands.

- FIA Program data show that non-corporate forestland has the greatest net growth (i.e., growth minus mortality and harvest excluding wood product storage).

- Based on FIA Program data, tree mortality from forest health-related causes results in substantial declines in forest carbon. These data indicate that tree mortality rates are highest on federal forest lands in reserve (e.g., wilderness), where mortality is slightly outpacing growth.

CARB California Greenhouse Gas Emissions for 2000 to 2018 (CARB, 2020)
Summary: This inventory is specific to anthropogenic sources so most of the agriculture category relates to commercial agriculture. Emissions related to logging from trucks and equipment would fall

under the transportation sector. The Natural and Working Lands Emission Inventory contains more specific emission and sequestration numbers for Forestry.

- California statewide GHG emissions dropped below the 2020 GHG Limit in 2016 and have remained below the 2020 GHG Limit since then.
- Transportation emissions decreased in 2018 compared to the previous year, which is the first year over year decrease since 2013.
- Since 2008, California's electricity sector has followed an overall downward trend in emissions. In 2018, solar power generation has continued its rapid growth since 2013.
- Emissions from high-GWP gases increased 2.3 percent in 2018 (2000-2018 average year-overyear increase is 6.8 percent), continuing the increasing trend as they replace Ozone Depleting Substances (ODS) being phased out under the 1987 Montreal Protocol.

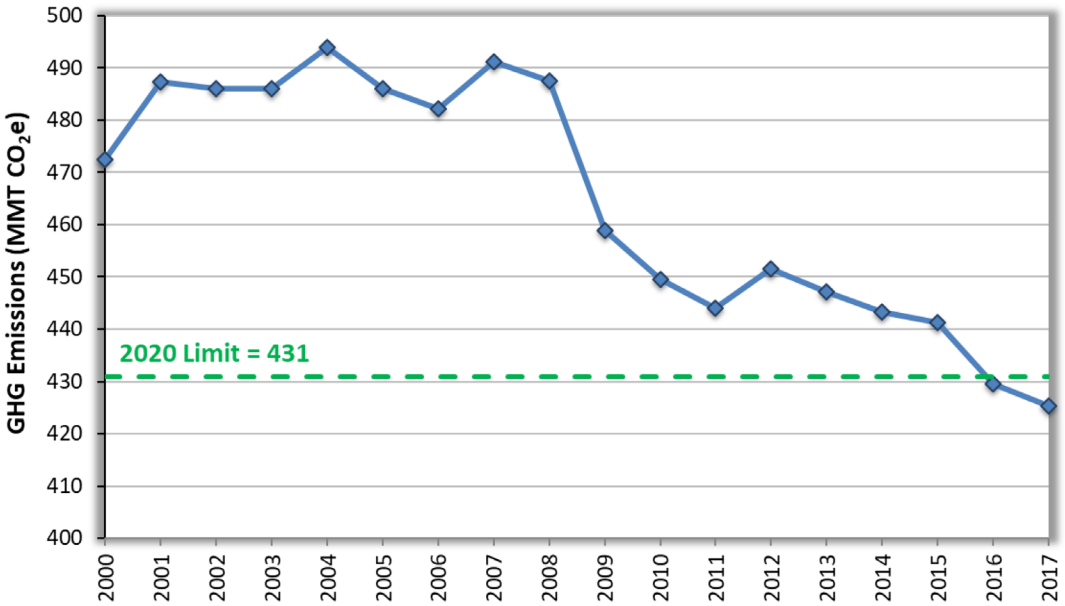


Figure 1. California GHG Emissions Trends. This figure shows the emission trends between 2000 and 2017 as compared to the 2020 statewide GHG limit of 431 $MMTCO_2e$.

- In 2017, emissions from statewide emitting activities were 424 million metric tons of CO2 equivalent (MMTCO2e), which is 5 MMTCO2e lower than 2016 levels. 2017 emissions have decreased by 14 percent since peak levels in 2004 and are 7 MMTCO2e below the 1990 emissions level and the State's 2020 GHG limit. Per capita GHG emissions in California have dropped from a 2001 peak of 14.1 tonnes per person to 10.7 tonnes per person in 2017, a 24 percent decrease.4,19 Overall trends in the inventory also demonstrate that the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross domestic product (GDP)) is declining. From 2000 to 2017, the carbon intensity of California's

economy has decreased by 41 percent from 2001 peak emissions while simultaneously increasing GDP by 52 percent. In 2017, GDP grew 3.6 percent while the emissions per GDP declined by 4.5 percent compared to 2016.22 Figures 2(a)-(c) on the next page show California's growth alongside GHG reductions.

- California's agricultural sector contributed approximately 8 percent of statewide GHG emissions in 2017, mainly from methane (CH4) and nitrous oxide (N2O) sources.

An Inventory of Ecosystem Carbon in California's Natural & Working Lands (NWL) (CARB, 2020)

This inventory tracks carbon within California ecosystems and how it moves between various "pools". This is a snapshot view that provides for valuable long-term comparisons. These inventories are constantly being improved and some tracking categories have higher levels of certainty than others. Soil is the largest estimated pool of carbon and also has the highest error associated with those estimates. The assessment estimates that a majority of soil carbon loss is associated with the Sacramento-San Joaquin Delta region. Forest and shrublands show a 6% decrease, due to loss from wildfire. During the early iterations of these inventories, it appears prudent to only focus on gross trends.

- The Earth's carbon cycle involves the exchange of carbon between the atmosphere, biosphere (plants, animals, and other life forms), hydrosphere (water bodies), pedosphere (soils), and lithosphere (Earth's crust and mantles, including rocks and fossil fuels). Carbon moves between land types (e.g., forests and grasslands) and carbon pools1 (e.g., wood, roots, and soils) due to natural processes (growth, decay, and succession) and disturbances (e.g., wildfire) or anthropogenic forces such as land use change. The NWL Inventory tracks how much carbon exists in California's ecosystems, where that carbon is located, and estimates how much carbon is moving in and out of the various land types and carbon pools. It provides stored carbon "snapshots" and gives insight into the location and magnitude of NWL carbon stocks at discrete moments in time.

- The NWL inventory includes:
  - Forest and other natural lands (woodland, shrubland, grassland, and other lands with sparse vegetation): live and dead plant materials and their roots
  - Urban land: trees in urban area
  - Cropland: woody biomass in orchards and vineyards
  - Soil Carbon: organic carbon in soils for all land types
  - Wetlands: CO2 and CH4 emissions from wetland ecosystem

- Current NWL Inventory

  - There are approximately 5,340 million metric tons (MMT)2 of ecosystem carbon in the carbon pools that CARB has

quantified.3 (To put it into context, 5,340 MMT of carbon in land is equivalent to 19,600 MMT of atmospheric CO2 currently existing as carbon in the biosphere and pedosphere as carbon cycles through the Earth's carbon cycle.) Forest and shrubland contain the vast majority of California's carbon stock because they cover the majority of California's landscape and have the highest carbon density of any land cover type. All other land categories combined comprise over 35% of California's total acreage, but only 15% of carbon stocks. Roughly half of the 5,340 MMT of carbon resides in soils and half resides in plant biomass.

- Soil is the largest carbon reservoir. Using the IPCC default assumptions, most of the estimated net change in soil carbon was due to microbial oxidation of organic soil on the Sacramento-San Joaquin Delta. Disturbance caused by tillage and other agricultural management practices, land conversion, and land degradation also contributed to the soil carbon loss. Forest and shrubland carbon stocks in 2010 was 6% lower than in 2001 due to a number of large wildfires that occurred during the 2001-2010 period. (Future inventory editions will capture the impacts of large fire events seen in recent years.) Woody crops and urban forest both gained carbon, as these trees are generally well maintained due to their economic and aesthetic values. Part of the carbon gain seen in urban forests came from expansion of the urban footprint over this period of time. Movement of carbon among land types and carbon pools is a dynamic process. Carbon gain in one land type may be a result of carbon loss in another land type, and vice versa.

- Although carbon that leaves the land base is counted as a carbon stock loss in the NWL Inventory, not all carbon stock loss becomes emissions released into the atmosphere. Some of the carbon leaving the land base continue to retain carbon as durable wood products (e.g., furniture and building materials).

- Disturbances in Forest and Other Natural Lands
  Geospatially explicit carbon stock change information can be related to the different types of disturbance on land. During the 2001–2014 period, wildfire accounted for 74% and prescribed fire accounted for 3% of the areas that experienced disturbance. The impact of wildfire can be seen throughout the State, in both rural areas and urbanized areas near shrublands and forest. Harvest and clearcut accounted for 11%, and fuel reduction activities (thinning, mechanical, and mastication) accounted for 14% of the disturbed area.

- Uncertainty of the Inventory Estimates The science, method, and technique for accounting of ecosystem carbon are relatively new and still rapidly advancing. Although significant progress has been made in the inventory development, more work still needs to be done. The parts of the NWL Inventory that have been in development for more years generally have a reasonably constrained uncertainty (between 15% and 40%), but other parts of the inventory that CARB started to develop more recently contain significant uncertainties.

AB 1504 California Forest Ecosystem and Harvested Wood Product Carbon Inventory (Christensen, Gray, Kuegler, Tase, & M, 2021)

Summary: California forests vastly exceed the 5MMT CO2e target, by a factor of over 5 times, even when taking into account losses from fire, drought and timberland conversion. Forests remain a net sink of carbon, even accounting for losses from wildfire and drought.

- Overall California forests are exceeding the 5 MMT CO2e target rate of annual sequestration established by AB 1504, sequestering 26.8 ± 4.2 MMT CO2e per year (excludes confidence interval for HWP C net change; Table 7.1). This value includes changes in forest ecosystem pools (26.0 MMT CO2e per year), harvested wood product pools (0.8 MMT CO2e per year), non-CO2 emissions from wildfires (-0.6 MMT CO2e per year), and forest land conversions (-1.0 MMT CO2e per year).
- Based on plots initially measured between 2001-2009 and re-measured between 2011-2019, the average statewide rate of forest carbon sequestration is 26.0 ± 4.1 MMT CO2e per year, excluding net CO2e contributions from other sources such as, harvested wood products, forest land conversions and non-CO2 GHG emissions from wildfire (Table 4.1,4.3).
- Based on the 2019 measurement period, after accounting for these other CO2 and greenhouse gas sources the statewide rate of carbon sequestration on all forest land is 24.5 ± 4.0 MMT CO2e per year (Table 4.2a), down from the 2018 re-calculated reporting period estimate of 26.4 ± 4.3 MMT CO2e. This value cannot be directly compared to previous report values from the 2015 reporting period (32.8 ± 5.5 MMT CO2e per year), the 2016 reporting period (30.7 ± 5.3 MMT CO2e per year), or the 2017 reporting period (27.0 ± 5.5 MMT CO2e per year) due to improved methods over time and the re-stratification that occurred in 2019. However, data suggest that the net annual sequestration rate is decreasing over time. This value excludes contributions from HWP pools.

THP-Specific Assessment

CEQA requires that individual projects estimate the associated GHG emissions from a proposed project and make a determination of significance. The plan submitter provided a site-specific analysis in Section IV of the THP. Using the CALFIRE GHG calculator, it is estimated that GHG sequestration for this project will be 45,220 metric tons of CO2 over the 100-year planning horizon. In other words, this THP demonstrates a net sequestration of carbon, not a net emission of carbon.

The Department has reviewed the estimates of emissions associated with the pools evaluated by the Plan as part of the project specific analysis and has determined that the calculations have reasonably accounted for emissions from biologic and production elements of the project and that the sequestration estimates incorporate approaches for estimating carbon sequestration that are consistent with current science.

When this THP is considered within its own context, taking into account the state and national assessments discussed previously, CAL FIRE has determined it meets the requirements of CEQA and is consistent with the broader goals established by AB32 in providing for long-term carbon sequestration while providing for the market needs for forest products.

12. CONCERN: Public Comment Period

The public has expressed concerns that the proposed THP did not have an adequate public comment period and/or that they were misinformed by the CalTREES website.

RESPONSE: The THP was filed on 7/09/2020 which began the start of the Public Comment Period and on the Notice of Filing Report dated 7/09/2020, the earliest the Public Comment Period could close was 8/20/2020, exactly 42 total days minimum. The initial Public Comment Period was closed on 1/14/2021, but the THP was recirculated for Agency Review on 12/02/2021 which re-opened the Public Comment Period for 30 days to then close on 1/03/2022. All Public Comment Letters that had been submitted after 1/14/2021 were included into the THP record and made available on the CalTREES website as well as the new Public Comment Letters submitted from 12/02/2021 to 1/03/2022. The THP received over two hundred submitted Public Comment Letters. All Public Comment Letters submitted while the Public Comment period was open are available on the CalTREES website. CAL FIRE has received additional public comment letters outside of the public comment period, which it has also reviewed, considered, and maintained. The first Public Comment Period was 189 days and the second Public Comment Period was 32 days, totaling 221 days of Open Public Comment Period. These two periods for open Public Comment were more than adequate to facilitate all submitted letters, which the results clearly support.

13. CONCERN: Inadequate Surveys

The public has expressed concerns that the proposed THP does not have adequate Northern Spotted Owl (NSO), osprey, and/or plant surveys.

RESPONSE: The THP provides survey protocols and protection measures for NSO and ospreys. The THP also provides survey data and protocols for botanical surveys.

NSO has been thoroughly addressed in Section II, Item #32, of the THP on pages 79-79.2 and in Section V on pages 337 – 385.67. The THP provides protection measures for NSO in Section II, Item #32 on pages 79-79.2. The THP provides 224 pages of supporting documentation regarding NSO surveys and analysis in Section V of the THP on pages 337 – 385.67. These surveys and protection measures have been evaluated and revised throughout the review process. Specific to NSO, the California Department of Fish and Wildlife (CDFW) had 11 questions in the First Review Report, as well as two recommendations in the PHI Report and seven more recommendations at Second Review. These questions and recommendations are explained in detail in the response to Concern #26.

Please see the response to Concern #26 for additional information regarding NSO Surveys and Protections Measures.

Osprey has been thoroughly addressed in Section II, Item #32, of the THP on page 79.3 and states:

> *There is one known active osprey nest adjacent to the THP. The osprey nest is located outside the THP, approximately 315 feet from the Timber Harvest Boundary. The osprey nest is located below Neely Road near the north end of the THP boundary. Because the Osprey nest is located over 300 feet from the Timber Harvest Boundary, and is not adjacent to any appurtenant roads, there are no additional protection measures proposed for the nest below Neely Road.*
>
> *Additionally, there is one osprey nest located within the THP Boundary, adjacent to a tributary to Mays Canyon Creek. This osprey nest shall be surveyed prior to timber operations as follows:*
>
> *The RPF, or his supervised designee, or a consulting wildlife biologist who are familiar with identifying ospreys and their nests shall visit the known nest locations in the THP area twice, with surveys two weeks apart, during the period of March 15 through April 15 of an operating year to search the area to determine if ospreys are nesting prior to the start of operations. If the nest is determined to be unoccupied, operations may occur within the buffer zone after April 15. If an occupied osprey nest is found, no timber operations shall occur within 500 feet of the nest site until August 15, or until two weeks after fledging has occurred and the nest is determined to be no longer occupied. All survey data shall be submitted to CDFW 10 days prior to the start of operations. Additional consultation with CDFW shall be required if the locations and boundary lines of the harvest area are modified, or if CDFW received any new information regarding osprey occurrences near the proposed harvest.*
>
> *For any other osprey, the buffer zone around active nest sites shall be up to five acres in size. When explained and justified in writing, the Director may increase the size of the buffer zone to a maximum of 18 acres when necessary to protect nesting birds.*
>
> *For the osprey, all designated nest trees, perch trees, screening trees, and replacement trees shall be left standing and unharmed. These trees will be designated for retention in the field with an orange stripe at breast height and an orange butt mark at the base of the tree. If the RPF believes that retention is not feasible, he/she may propose construction of an artificial nest structure as an alternative.*
>
> *If an osprey is found to be nesting within the THP area during the period of March 1 to August 1, halt all operations within 150 feet of the suspected nesting site and notify the Plan Submitter. Do not recommence operations until appropriate measures have been taken by the Plan Submitter and accepted and approved by CDFW.*

For additional information regarding osprey surveys and protection measures please see the response for Concern #17.

Botanical Surveys have been completed for the plan area and a Botanical Report has been included in Section V of the THP on pages 386-444. The survey and report were completed to the protocol standards for botanical surveying in timber harvesting plans. The survey and report has been reviewed by CDFW and they have not expressed to the Department that additional surveys are necessary to provide adequate protection for rare plant species.

CDFW did not indicate to the Department that additional information or surveys are necessary prior to plan approval to allow for review of the plan or to prevent adverse impacts. The plan has been found to provide adequate protection for NSO, osprey, and rare plant species.

14. CONCERN: Clearcutting and Deforestation

The public has expressed concerns that the THP proposed clearcutting and/or deforestation.

RESPONSE: There is no clearcutting or deforestation proposed in this THP. Clearcutting is an evenaged regeneration method, which involves the removal of a stand in one harvest [ref. 14 CCR 913.1(b)]. Deforestation is the removal of a forest stand where the land is put to a nonforest use [ref. The Society of American Foresters Dictionary of Forestry]. Two examples would be where a forest is turned into a vineyard or a housing subdivision.

THP Section II, Item #14.a., page 10, describes the proposed silvicultural methods: Selection (51 acres), Group Selection (33 acres) and Transition (124 acres), all of which are unevenaged regeneration methods. Unevenaged management is utilized to establish and maintain an unevenaged stand structure. Unevenaged management attributes include the establishment and/or maintenance of a multi-aged, balanced stand structure, promotion of growth on leave trees throughout a broad range of Diameter classes, and encouragement of natural reproduction [ref. 14 CCR 913.2].

Under the selection regeneration method, the trees are removed individually or in small groups sized 0.25 acres to 2.5 acres [ref. 14 CCR 913.2(a)]. The transition method involves the removal of trees individually or in small groups from irregular or evenaged stands to create a balanced stand structure and to obtain natural reproduction [ref. 14 CCR 913.2(b)]. This method is used to increase stocking and improve the balance of age classes [ref. 14 CCR 913.2(b)(2)]. An overview of the minimum postharvest stocking standards for these silvicultural methods as required by Forest Practice Rules and this THP are described below.

- Individual tree selection silviculture, on site II and III lands, as proposed in this plan:
  - The Forest Practice Rules require the retention of at least 75 square feet per acre of basal area [ref. 14 CCR 913.2(a)(2)(A)(2)]
  - However, approximately 75% of this area (38 acres) is within the WLPZ for the Russian River, in which postharvest stands must retain a minimum of 50 to 80% overstory canopy cover [ref. 14 CCR 916.9(f)(3)(C) & (D)]
    - At least 80% overstory canopy cover retention in the Inner Zone A.
      - From 30 to 150 feet beyond the Watercourse Transition Line (WTL).
    - At least 50% overstory canopy cover retention in the Inner Zone B.
      - From 150 feet beyond the WTL to the edge of the flood prone area.
    - Thereby significantly increasing basal area retention above and beyond the minimum stocking standards for the selection regeneration method.

  - Furthermore, postharvest stands must also retain the 13 largest conifer trees on each acre of Inner Zones A and B [ref. 14 CCR 916.9(f)(3)(C)(4) & (D)(1)], which further limits the amount of allowable timber harvesting in this portion of the THP.

- Group selection silviculture, on Site III lands, as proposed in this plan:
  - Following the completion of timber operations, the Forest Practice Rules require that no more than 20% of the THP area harvested by this method shall be covered by small group clearings [ref. 14 CCR 913.2(a)(4)].
  - These group clearings will range in size from 0.25- 2.5 acres and must meet 300 point count standards with trees that are at least 10 years of age upon completion [ref. 14 CCR 913.2(a)(2)(B)(2.)].

- Transition silviculture, on Site III lands, as proposed in this plan:
  - Akin to group selection, the FPRs require that no more than 20% of the Plan area harvested by this method shall be occupied by small group clearings following the completion of timber operations [ref. 14 CCR 913.2(b)(7)].
  - Furthermore, immediately following the completion of timber operations, the Forest Practice Rules require that the average residual basal area (measured in stems one inch or larger in diameter) shall be at least 50 square feet per acre, 15 of which must be comprised of seed trees 12 inches DBH or greater [ref. 14 CCR 913.2(b)(5) & (6)].
  - Post-harvest stand stocking levels specified in the Plan go further, requiring seed trees to be 18 inches DBH or greater where disease-free and undamaged trees are present in the preharvest stand [ref. THP Section II, Item #14.b. (page 11)].

A multiagency review team consisting of CAL FIRE, CDFW, CGS, NCRWQCB and RRCSD conducted a PHI of the THP area on July 24, 2020. Regarding the proposed silviculture, the PHI Report, dated July 31, 2020, concludes that the silvicultural methods in the THP are appropriate for existing stand conditions. Furthermore, the PHI Report states:

> *The proposed silviculture was evaluated during the PHI and complies with the Forest Practice Rules.*

Concerning maximum sustained production of high quality timber products, the PHI Report concludes that the Plan complies with goals of 14 CCR 913.10 to restore, enhance and maintain the productivity of the state's timberlands, and that the post-harvest stand would obviously satisfy minimum stocking requirements.

CAL FIRE concludes that no Clearcutting is proposed within this THP. This THP will maintain a forested landscape at the completion of timber operations. The silvicultural systems proposed in this THP are appropriate and will not result in deforestation.

15. CONCERN: Noise

The public has expressed concerns that operations under the proposed THP could cause noise impacts for local residents.

RESPONSE: THP Section IV, Cumulative Impacts Assessment pages 206-207 (revised) includes a summary of the impacts of noise within the Noise Assessment Area associated with the THP. The Noise Assessment Area includes that area within 0.5 miles of the project area. The THP states:

While the proposed THP is located adjacent to many residential parcels, the relative distance, topography, and forested condition will likely reduce noise levels at those receptor points below the standards for noise which may affect noise sensitive land uses. Furthermore, mitigations provided in the plan sufficiently mitigate noise disturbance during the NSO breeding season. The presence of timberlands yields significant aesthetic and economic benefits to the health and welfare of the residents of the County. People who purchase property near such agricultural lands are notified that they may be subject to inconvenience or discomfort from operations on agricultural lands. These inconveniences or discomfort are recognized as a normal aspect of living in a County with a strong rural character. The parcel where operations are proposed is zoned TPZ. This parcel has been harvested several times within the past century.

Additionally, THP Section IV states:

There are over 1,500 parcels located within 0.5 miles of the proposed THP area, many of which are residential. The THP, as has been previously described, is located in the city of Guerneville, meaning it is located in a fairly densely populated place. Residents of Guerneville experience similar noise pollution to other small cities including vehicles, buses, garbage trucks, construction, powerline vegetation removal work, and in some cases noise from agricultural equipment including vineyard and logging equipment.
[…]
Although significant impacts are not expected, in order to reduce the potential for noise from the operations during early morning, evening, and weekends, timber falling and use of chainsaws for log bucking will not occur on weekends, and will not occur before 7:30 AM or after 5 PM on weekdays on the portion of the THP area that faces north toward Highway 116 from the main ridgeline north to the property line.

CAL FIRE has evaluated the potential for noise impacts from operations proposed in the THP and determined the operating period limitations specified are sufficient to mitigate cumulative adverse impacts associated with project-generated noise.

16. CONCERN: The Clar Tree and Old Growth Protections

Some members of the public have expressed concerns that the proposed THP does not adequately protect the “Clar Tree” and/or other old growth trees.

RESPONSE: The project RPF pre-consulted with CDFW regarding proposed operations within the Flood Prone Area (FPA) of the plan and the Clar Tree. The CDFW report, dated May 7, 2020 can be found on pages 319-322. With regard to the Clar Tree, CDFW states the following:

During the field visit, CDFW staff observed a historic old-growth redwood tree located in the FPA [flood prone area] southwest of landing L1. This residual redwood, identified as the “Clarr [sic] *Tree”, is not proposed for harvest. CDFW discussed the various benefits of placing a no-cut buffer around the tree including protection from wind damage, protection from predators for wildlife species utilizing the habitat, and avoidance of incidental harvest operations damage to screen trees and overlapping canopy trees. It was agreed that a 75-foot no-cut buffer will be placed around the Clarr* [sic] *Tree.*

This was agreed to and the Clar Tree has been formally protected within the THP.

It should be noted the entire area surrounding the Clar Tree is either outside of the THP area or within the FPA of the THP. Within the FPA, a significant amount of overstory must be maintained (50-80% dependent on the zone) as the THP only allows for single tree selection. 13 of the largest trees per acre must be retained and only pre-designated skid trails may be utilized. All told, operations within this area will not have a significant adverse effect on wind firmness of residual trees or soil compaction.

The THP includes protection measures for the Clar tree in Section II, Item #32, on page 77. The Clar tree can be located on the Yarding Methods Map (page 92) and the WLPZ Operations Map (page 94).

The THP states within Item 34 (page 82.1) that "No" Late Successional Forest stands are proposed for harvest.

A multiagency review team consisting of CAL FIRE, CDFW, CGS, NCRWQCB and RRCSD conducted a PHI of the THP area on July 24, 2020. In response to a public comment received prior to the conclusion of the PHI, specifically regarding old growth, the PHI Report, dated July 31, 2020, states:

> *The plan does not propose the harvesting of old growth trees… As evaluated during the PHI, no large old growth or late successional stands are proposed for harvest.*

CAL FIRE agrees with CDFW's findings that the Clar Tree has been adequately protected. No additional old growth trees or stands were identified within the THP.

17. CONCERN: Active Osprey Nests

Some members of the public have expressed concerns that the proposed THP does not identify and/or does not adequately protect active osprey nests in the Plan area.

RESPONSE: THP Section II, Item #32.a. (page 79.3), provides protection measures for Osprey, which is one of the Sensitive Species designated by the Board of Forestry [ref. 14 CCR 895.1]. Revised THP pages 79.3 states:

> *There is one known active osprey nest adjacent to the THP. The osprey nest Is located outside the THP, approximately 315 feet from the Timber Harvest Boundary. The osprey nest Is located below Neely Road near the north end of the THP boundary. Because the Osprey nest Is located over 300 feet from the Timber Harvest Boundary, and is not adjacent to any appurtenant roads, there are no additional protection measures proposed for the nest below Neely Road.*
>
> *Additionally, there is one osprey nest located within the THP Boundary, adjacent to a tributary to Mays Canyon Creek. This Osprey nest shall be surveyed prior to timber operations as follows:*
>
> *The RPF, or his supervised designee, or a consulting wildlife biologist who are familiar with identifying ospreys and their nests shall visit the known nest locations in the THP area*

twice, with surveys two weeks apart, during the period of March 15 through April 15 of an operating year to search the area to determine if ospreys are nesting prior to the start of operations. If the nest is determined to be unoccupied, operations may occur within the buffer zone after April 15. If an occupied osprey nest is found, no timber operations shall occur within 500 feet of the nest site until August 15, or until two weeks after fledging has occurred and the nest is determined to be no longer occupied. All survey data shall be submitted to CDFW 10 days prior to the start of operations. Additional consultation with CDFW shall be required if the locations and boundary lines of the harvest area are modified, or if CDFW received any new information regarding osprey occurrences near the proposed harvest.

For any other Osprey, the buffer zone around active nest sites shall be up to five acres in size. When explained and justified in writing, the Director may increase the size of the buffer zone to a maximum of 18 acres when necessary to protect nesting birds.

For the Osprey, all designated nest trees, perch trees, screening trees, and replacement trees shall be left standing and unharmed. These trees will be designated for retention in the field with an orange stripe at breast height and an orange butt mark at the base of the tree. If the RPF believes that retention is not feasible, he/she may propose construction of an artificial nest structure as an alternative.

If an Osprey is found to be nesting within the THP area during the period of March 1 to August 1, halt all operations within 150 feet of the suspected nesting site and notify the Plan Submitter. Do not recommence operations until appropriate measures have been taken by the Plan Submitter and accepted and approved by CDFW.

CAL FIRE has evaluated the potential for adverse impacts to osprey and determined the THP, in combination with the Forest Practice Rules, are sufficient to ensure protection of active osprey nests.

18. CONCERN: Invasive Plant Species

Some members of the public have expressed concerns that the proposed THP could facilitate an increase in invasive plant species.

RESPONSE: During First Review, CDFW asked the RPF if there were any known occurrences of invasive plant species (i.e. French broom & pampas grass). If there were known occurrences, how would timber operations affect the distribution of these invasive species and what measures would the THP take to minimize its spread. The RPF revised Section II, Item #32, page 82, on 7/20/2020 & 11/19/2021 to address CDFW's concern by stating the following:

Invasive Species: Within the THP area there are populations of French Broom (Genista monspessulana) and pampas grass (Cortaderia jubata). These invasive species are mostly concentrated in open areas such as roads, skid trails, and landings. These species should be removed whenever feasible.

Both French broom and pampas grass are shade intolerant species. The proposed silviculture will leave a significant amount of canopy, which will significantly reduce the spread and establishment of these invasives. Ground-based skidding operations will be limited to the existing infrastructure thus mitigating the potential spread of these invasives by equipment into new areas. CAL FIRE

has evaluated the potential for increased spread of acknowledged invasive plant species and determined the THP is not likely to increase the rate of spread of invasive plant species.

19. CONCERN: Unmapped Watercourse(s), Operations within Watercourse and Lake Protection Zones (WLPZs), In-Lieu Practices and Landings Located in Flood Prone Areas

Some members of the public have expressed concerns that the proposed THP does not identify and/or does not adequately protect all watercourses within the Plan area. Some members of the public have also expressed concerns about in-lieu practices as well as landings located in flood prone areas.

RESPONSE: Please refer to previous Response #7. A multiagency review team consisting of CAL FIRE, CDFW, CGS, NCRWQCB and RRCSD conducted a PHI of the THP area on July 24, 2020. The PHI Report, dated July 31, 2020, concludes that all watercourses have been correctly described and classified within the Plan, and that the proposed protection measures for watercourses, lakes and wet areas adequately protect the beneficial uses of water, native aquatic and riparian species, and the beneficial functions of the riparian zone.

The THP proposes with explanation and justification, use of landings and skid trails within portions of a WLPZ, and limited tree falling if necessary for cable yarder corridor clearance. These proposals were evaluated during the PHI by the multiagency review team. Upon field evaluation of the locations of proposed heavy equipment use in a WLPZ or ELZ, CAL FIRE provided the following recommendation as stated inthe PHI Report:

> *The WLPZ skid trails were evaluated during the PHI. Please revise Item 27 Section II to state that WLPZ skid trails shall be slash packed regardless of slope for further stabilization measures.*

The RPF Response, received on November 2, 2020, included a revised THP Section II, Item 27 (page 67), which states:

> *The running surface of skid roads shall be treated with slash. Operations shall be conducted only when soil conditions are dry and stable. Avoid disturbance of vegetation not intended for harvest that could increase the likelihood of erosion or damages the reinforcing root network on the channel banks, including any secondary overflow channels.*

Regarding field evaluation of proposed use of landings located in the WLPZ, the PHI Report states:

> *Landings are limited to existing landings. Four existing WLPZ landings are proposed for use. These landings are located on existing roads at considerable distances from any watercourses.*

Item 27 of the THP specifies measures to be implemented by the LTO to minimize soil disturbance during use of skid trails and landings in the WLPZ. The THP also incorporates seven (7) “Preferred Management Practices in the Inner Zone A and B of flood prone areas,” excerpted from the ASP Rules, to further ensure the proposed in-lieu practices would not result in deleterious effects to a watercourse. An additional restriction is incorporated for a portion of skid trail in the WLPZ adjacent to map point 24 such that this portion of the skid trail is only to be utilized for removal of garbage and pollutant debris as part of the “Pollution Prevention and Removal Plan” incorporated into the THP.

The proposal for felling of cable yarder corridor trees includes the caveat that only a small number of trees, if any, in an estimated 10% of the cable yarder corridors, may need to be felled. Any trees felled within the Core Zone of a Class I or II watercourse would be left in place to serve as Large Woody Debris (LWD). LWD is recognized as an important element of instream fish habitat development. As specified in Sections II and III of the THP, any tree felling necessary for cable yarder corridors will not result in noncompliance with Forest Practice Rule canopy retention standards.

Second Review for this THP occurred on 1/4/2021, and the THP was recommended for approval by the Review Team. The Review Team had no additional concerns regarding unmapped watercourse(s), operations within Watercourse and Lake Protection Zones (WLPZs), in-lieu practices or landings located in flood prone areas. CAL FIRE believes that the THP is in conformance with the Forest Practice Rules and that the public's concerns regarding these issues have been properly addressed.

20. CONCERN: Group Selection Silviculture in the G6 Area

Some members of the public have expressed concerns about the proposed silviculture and/or timber operations in the G6 area of this THP.

RESPONSE: THP Section V, pages 230-267.8, includes the Focused Engineering Geologic Review of the Silver Estates THP (Revised) conducted by Certified Engineering Geologist Timothy C. Best (CEG #1682) dated June 11, 2020. The Geologic Review included a description of the Unstable Feature located at G6. The description of G6 on page 250 of the THP states:

> *..roughly 1.5-acre questionable deep-seated landslide or colluvial filled drainage located on moderate (30% to 50%) gradient slopes within a small ephemeral drainage. This questionable feature was identified solely from the LiDAR imagery and was not apparently in the historic aerial photographs.*
>
> *The RPF did not observe any evidence of recent or active slide activity, such as fresh cracks, leaning trees, or disrupted drainages. We did not observe any distress from deep-seated slide activity to Neeley Road, which traverses the toe of this questionable landslide. We interpret the slide, if it exists, to be dormant with a low level of activity.*
>
> *The THP proposes group selection which appears appropriate from a slope stability standpoint.*
>
> ***Recommendations:***
> *No additional recommendations are warranted.*

Review team member, Kevin Doherty (California Geological Survey) provided his comments within his PHI reported dated 8/18/2020:

> *Several of the unstable areas mapped by Best (2020) (G1, G2, G3, G6, and G10) are located within areas proposed for cable and ground-based Selection, Group Selection, and Transition harvesting. Mitigation measures proposed in the THP generally appear consistent with recommendations by Best (2020), including increased retention within Special Treatment Zones (STZ), restricting Group Openings and avoidance of the more sensitive areas. The mapped unstable features appear to toe into the Russian River, Mays*

Canyon and mapped Class II and Class III tributaries. Class I and Class II WLPZ and Class III ELZ protections, the proposed STZ's and avoidance of the more sensitive areas, appear designed to retain canopy and root function within the unstable features.

Best also maps unstable features (Slides G1, G2, G3, G4, G5, G6) along northwest-facing slopes within the northwestern THP boundary that appear to toe into the Russian River. Neeley Road, which provides public access to the Vacation Beach and Edendale residential developments, appears to cross the toe of the mapped unstable features approximately 75 to 100-feet upslope of the Russian River. In an effort to minimize adverse impacts to slope stability and public safety along Neeley Road, the northern THP boundary has been flagged between 50 and 300-feet upslope. Mitigation measures recommended by Best …. generally appear designed to retain a large component of the existing canopy and root function.

CGS had no additional recommendations for G6 within their PHI report and recommended the plan for approval on 1/4/2021.

As stated in the THP, Group Selection will be applied to the area identified as G6 by consulting Certified Engineering Geologist, Tim Best. 80% of the area will need to meet the single tree selection basal area of 75 ft^2/acre as per 14 CCR 913.2 (a)(2)(A) of Group A species. Hardwoods do not count for basal area, but nonetheless will be retained across this area. Group openings shall be 0.25-2.5 acres in size. Group openings shall be separated by a logical logging unit and not more than 20% of the Group Selection area shall be covered by group openings.

The CALFIRE Pre-Harvest Inspection Report dated July 31, 2020 also states:

Item #10: Are the Silviculture methods appropriate for existing stand conditions: Yes.

Item #46: Have unstable areas been properly identified? Yes.

Item #47: If operations are proposed on unstable areas, are the proposed operations appropriate and properly mitigated?: Yes.

CAL FIRE has determined on the basis of the professional geological expertise employed in the development and subsequent review of measures incorporated in the THP that the THP, in combination with the conformance to Forest Practice Rule standards, will properly mitigate slope stability concerns at the area identified as G6.

21. CONCERN: Not Possible to Make Meaningful Comment on This THP Due to Multiple Lengthy Revisions and Additions

Some members of the public have expressed concerns that the proposed THP is not organized in a way that is readily understandable, due to difficulty navigating the CalTREES website as well as multiple lengthy revisions and additions to the Plan. Some commenters also suggested that CEQA requirements have been violated because they cannot make meaningful comment on a plan that is not coherent, and that the THP should be reorganized into one coherent document so that they can review it in its entirety.

RESPONSE: The THP was filed on 7/09/2020, which began the start of the multi-agency review of the proposed plan and opened up the public comment period. Review Team recommendations, during the course of review, led the RPF to revise portions of the originally submitted document. The THP went through Second Review on 1/14/2021 and was recommended for approval. As mandated by statute, the public comment period closed on 1/14/2021. In an effort to address public comment, the RPF, at the request of the Director, revised portions of the plan prior to the Director's Determination date. Some of these revisions required recirculation of the THP by the Director on 12/02/2021. At that point, revised and or additional pages were collated into cohesive sections for public review. Recirculation also reopened public comment on the plan for an additional 30 days. The official public comment period was open for an excess of 7 months. Public comment letters received after the first close of public comment (1/14/2021) were not withdrawn from CalTREES and at the direction of the Director have been made part of the public record (See Recirculation Letter dated 12/2/2021).

The complete approved digital version of the THP is available through CalTREES in the attachments portion of the program. The THP is broken into its distinct Sections (I-VI) and through CalTREES, is readily available to the public to review. THP page revisions are clearly labeled in CalTREES with a date stamp to indicate when they were received. The Review Team is available by phone or email if there are questions or confusion regarding THP revisions during the review process. The large amount of public comment letters received makes it challenging to navigate through the various documents, but all submitted public comment letters received during the public comment period are included in the THP record.

22. CONCERN: Ground-Based Equipment on Steep Slopes and Unstable Areas

The public has expressed concerns about timber operations on steep slopes and/or unstable areas.

RESPONSE: A multiagency review team consisting of CAL FIRE, CDFW, CGS, NCRWQCB and RRCSD conducted a PHI of the THP area on July 24, 2020. The PHI Report, dated July 31, 2020, concludes that proposed operations on unstable areas are appropriate and properly mitigated.

See CGS PHI Report for further information regarding geologic recommendations. The THP addresses slope stability on steep slopes and unstable areas by pre-designating existing skid trails that are in good conditions for use in the field for review prior to the PHI and start of operations. No new skid trails will be constructed in areas exceeding 50% slope on ground designated High EHR or on slopes over 65% slope on ground designated Moderate EHR. No winter operations will be allowed on the exemption skid trails proposed for use. Exemption skid trails will have water bars constructed to the High or Extreme EHR standard once operations are completed in those areas. The skid trails are not excessive in use and are generally short runs to minimize potential impacts in the areas of concern.

Kevin Doherty (California Geological Survey) provided his comments within his PHI reported dated 8/18/2020:

> *Several of the unstable areas mapped by Best (2020) (G1, G2, G3, G6, and G10) are located within areas proposed for cable and ground-based Selection, Group Selection, and Transition harvesting. Mitigation measures proposed in the THP generally appear consistent with recommendations by Best (2020), including increased retention within Special Treatment Zones (STZ), restricting Group Openings and avoidance of the more*

sensitive areas. The mapped unstable features appear to toe into the Russian River, Mays Canyon and mapped Class II and Class III tributaries. Class I and Class II WLPZ and Class III ELZ protections, the proposed STZ's and avoidance of the more sensitive areas, appear designed to retain canopy and root function within the unstable features.

Best also maps unstable features (Slides G1, G2, G3, G4, G5, G6) along northwest-facing slopes within the northwestern THP boundary that appear to toe into the Russian River. Neeley Road, which provides public access to the Vacation Beach and Edendale residential developments, appears to cross the toe of the mapped unstable features approximately 75 to 100-feet upslope of the Russian River. In an effort to minimize adverse impacts to slope stability and public safety along Neeley Road, the northern THP boundary has been flagged between 50 and 300-feet upslope. Mitigation measures recommended by Best …. generally appear designed to retain a large component of the existing canopy and root function.

The CALFIRE Pre-Harvest Inspection Report dated July 31st, 2021 also states:

Item #10: Are the Silviculture methods appropriate for existing stand conditions: Yes.

Item #46: Have unstable areas been properly identified? Yes.

Item #47: If operations are proposed on unstable areas, are the proposed operations appropriate and properly mitigated?: Yes.

CAL FIRE has evaluated the measures incorporated in the THP based on the recommendations of the revised "Focused Engineering Geologic Review" dated June 11, 2020 and conducted by Certified Engineering Geologist, Tim Best. Based upon this evaluation supported by the PHI field inspection and office-based review conducted by a licensed professional geologist from the California Geological Survey, CAL FIRE has determined the limitations on ground-based equipment use in the THP, and retention of tree canopy and root function through unevenaged silvicultural methods sufficiently address slope stability concerns associated with the timber operations proposed.

23. CONCERN: Russian River County Sanitation District (RRCSD) Irrigation Impacts

Some members of the public have expressed concerns that the proposed THP could negatively impact the RRCSD irrigation infrastructure and/or operation.

RESPONSE: On July 19, 1979, Louisiana-Pacific Corporation granted the Russian River Sanitation Community Services District a 99-year easement to construct a wastewater treatment plant and establish spray fields on 77 acres where partially treated effluent would be broadcasted across the forested property. The easement was recorded by the County and can be found within Book 3604, Page 257. This document has also been included within the THP and starts on page 309. The document states the following within Item 2, THP page 310:

L-P shall be entitled to harvest timber on the property described in Exhibit A when and where it chooses and its sole reasonable discretion.

THP Section II, Item #38, pages 83 & 84, provides the following mitigations to reduce RRCSD Irrigation Impacts:

Portions of the plan are located within the Russian River County Sanitation Districts easement grant, a copy of this easement can be found in Section V of this THP. A map of the Easement Grant and active spray field areas is located at the end of Section II of this THP on the Effluent Spray Fields Map. In order to ensure the RRCSD functions without interruption the following shall [be] implemented prior to timber harvesting.

1. *At least 30 days prior to timber harvesting, the Landowner shall provide the District a plan that clearly describes when and where timber is to be harvested from within the Easement area.*
2. *To ensure that the sprinkler standpipes and the irrigation system within the active spray areas are protected from damage, trees will be felled, when and where feasible, away from the standpipes. The LTO will be responsible for identifying the location of all the sprinkler standpipes and will work in conjunction with the personnel from the Russian River Sanitation District to locate and protect the standpipes from damage as much as possible. The sprinkler heads are being painted bright orange by the RRCSD to help in avoidance during timber operations.*
3. *Prior to timber operations within the active spray areas the Landowner, the LTO, and the RRCSD shall meet weekly with Bret Beaudreau (Operations Coordinator) to discuss timber operations and preemptively shut off irrigation lines in the immediate areas being harvested to avoid damage to charged irrigation lines.*
4. *For daily operations and planning the Senior Shift Operator shall be consulted. The Senior Shift Operator is on site 7 days a week from 8:00am to 4:00pm. On a daily basis, the Senior Shift Operator determines what fields are operating and will inspect the field conditions a minimum of once per day, and is primary contact person to shut off any broken lines, if that were to occur.*

IN THE EVENT THERE IS INCIDENTAL DAMAGE TO THE RRCSD IRRIGATION LINES or equipment and a spill occurs the LTO shall contact the RRCSD immediately and all timber operations around the irrigation lines and equipment shall cease. The LTO shall be onsite during all operations around irrigation lines and equipment to monitor harvesting activates and report breakages should they occur.

RRCSD attended the PHI of the THP area on July 24, 2020, and their recommendations have been incorporated into this Plan. The THP also includes measures to address a slide at Map Point E. This failure currently prohibits a secondary (emergency) ingress and egress of RRCSD personnel from Mays Canyon to the treatment plant. The THP will reestablish road function at this site and RRCSD personnel will be able to access the plant during high flow events when Neeley Road is not passable.

CAL FIRE has evaluated the protection measures identified above and incorporated in the THP, and determined the measures provided will sufficiently mitigate any potential for adverse impacts to the RRCSD spray fields or their functionality.

24. CONCERN: Adequacy of Geological Report and Accuracy of Erosion Hazard Rating (EHR)

Some members of the public have expressed concerns about the adequacy of the geological report to address potential timber harvest impacts to unstable areas. Also, one commenter identified inaccurate two-year, one-hour rainfall intensity numbers in the Erosion Hazard Rating (EHR) for the THP area.

RESPONSE: Please see previous responses in this Official Response document to **Concern #3: Landslides** for similar and directly related concerns regarding the Geological Report and Erosion Hazard Rating (EHR).

On December 7, 2020, the RPF provided a response and a revision to the EHR based on Public Comment 20PC-000000480. The response from the RPF stated as follows:

> *Public Comment 20PC-000000480 submitted November 11th, 2020 raises concerns about the calculated erosion hazard rating. The commenter is correct in that the Two-Year One-Hour Rainfall Intensity numbers were not the most current and accurate numbers available. Based on the public comment the Erosion Hazard Rating sheet, [EHR] Maps, Item 21(i), and the Explanation and Justification for Item 21(i) have been revised.*
>
> *The Public Comment also raises concerns about the remaining protective vegetative cover remaining post-harvest. The Silvicultures proposed within the THP are not intensive and the estimated 80% remaining post-harvest is correct. Approximately 61 acres of the THP are proposed for Cable yarding which typically results in little disturbance to the ground or and remaining ground cover vegetation. There are approximately 87 acres where Modified Silvicultures have been proposed that retain additional basal area, resulting in additional canopy cover. These Modified Silviculture areas also have been restricted to Selective harvesting. Additionally, a majority of the THP area has ground cover consisting of huckleberry brush, blackberry brushes, poison oak, and small tan oak. These are not proposed for removal within the THP and shall remain post-harvest, retaining an average of approximately 80% vegetative cover post-harvest (overstory canopy and understory canopy combined).*

The revised EHR worksheet has been included in THP Section V, page 226, and calculates the EHR's for the THP area correctly. Item #17 on page 19 of the THP also includes appropriate information on EHR and is consistent with the Section V worksheet. The multiagency Review Team attended the PHI and there were no concerns brought up about EHR after the field inspection of the THP.

25. CONCERN: Winter Period Operations

Some members of the public have expressed concerns about the proposed winter operations in this THP

RESPONSE: This THP is proposed in a Watershed with Listed Anadromous Salmonids, and includes a Winter Period Operating Plan in THP Section II, Item #23, pages 29 – 34. The Winter Period Operating Plan addresses timber operations that may occur during the Extended Wet Weather Period between October 15 through May 1 [ref. 14 CCR 916.9(l)]. Timber operations

proposed during the winter period are timber falling, ground-based yarding during dry rainless periods when soils are not saturated, cable yarding, road and landing use for loading and hauling of logs. Road and watercourse crossing construction is not proposed during the Winter Period.

A multiagency review team consisting of CAL FIRE, CDFW, CGS, NCRWQCB and RRCSD conducted a PHI of the THP area on July 24, 2020. The PHI Report, dated July 31, 2020, concludes that winter operations as specified in the Winter Period Operating Plan are appropriate, and the mitigation measures proposed in the THP are adequate to protect the beneficial uses of water.

26. CONCERN: Northern Spotted Owl (NSO) Surveys and Protections

Some members of the public have expressed concerns that the proposed THP has inadequate Northern Spotted Owl surveys and/or protections.

RESPONSE: THP Section II, Item #32.a. (pages 77 – 79.2) provides protection measures for NSO, and THP Section V (pages 337 – 385.67) provides 224 pages of supporting documentation regarding NSO surveys and analysis. These surveys and protection measures have been evaluated and revised throughout the review process. Specific to NSO, the California Department of Fish and Wildlife (CDFW) had 11 questions in the First Review, as well as two recommendations in the PHI Report and seven more recommendations at Second Review. These questions and recommendations are spelled out below, followed by the final revisions to NSO protection measures from the RPF Responses as well as a summary this THP's NSO surveys and analysis.

CDFW questions #12, 13, and 17 – 25 from the First Review Report, dated July 9, 2020:

> *12. Section II, Item 32(a), Northern Spotted Owl, page 77. The THP states, "Pursuant to 14CCR 939.9(e), this THP is using Scenario 4." In the FPR, 14CCR 939.9(e) says, "If the submitter proposes to proceed pursuant to the outcome of a discussion with the U.S. Fish and Wildlife Service, the submitter shall submit a letter prepared by the RPF that the described or proposed management prescription is acceptable to the USFWS." The NSO take avoidance scenarios are located in the February 1, 2008 USFWS Technical Assistance Analysis document. Please address this discrepancy.*
>
> *13. Section II, Item 32(a), Northern Spotted Owl, pages 77-78. The THP states, "Also habitat retention, standard protection measures, operational limitations, and surveys shall be conducted in compliance with February 27, 2008 Attachment A for the Coast Forest District." The following habitat definitions and retention levels appear to be from Attachment B. Please address this discrepancy.*
>
> *17. Section V, Northern Spotted Owl Information, page 343. Under the Northern Spotted Owls Within 0.7 Miles heading, the THP states, "A daytime stand search was conducted within the property and off the property in the vicinity of the SON0076 AC looking for evidence of NSOs on 25APR18, 22APR19 and 09MAR20, and no NSO's were found." Were these stand searches conducted to protocol standards, specifically a thorough survey of the entire THP area searching for NSO whitewash, pellets, and feathers while broadcasting vocalizations, listening for responses, and watching for owls silently flying in? Please provide a map of the search route along with data forms that include start and end times and description of the habitat.*

18. Section V, Northern Spotted Owl Information, page 346. The NSO Surveys According to 2011 Protocol section describes a deviation, "Surveys between sunset and sunrise: This area has a higher than usual amount of transient activity in the area and it is not safe to conduct surveys after sunset. This area has historically been surveyed during the day before sunset." This deviation is significant and would warrant a pre-consultation with CDFW prior to initiating surveys. Please include information regarding the recent CDFW NSO consultation for the substantial deviations to survey protocols.

19. Section V, Northern Spotted Owl Information, page 346. Under the Surveys Between Sunset and Sunrise heading, the THP states, "This area has historically been surveyed during the day before sunset." There appears to be two previous THPs that cover roughly the same area as Silver Estates, 1-01-012 SON and 1-02-179 SON. Due to the length of time since these THPs, CDFW does not have the NSO minor amendments for these plans on file. These previous surveys could potentially have NSO detections that were never entered into CNDDB and may be informative regarding past survey effort and adherence to best survey practices. If possible, please provide these past NSO minor amendments to aid in the review and evaluation of NSO survey effort. Additionally, if NSO survey data is available from neighboring landowners please provide this data to aid in review and evaluation.

20. Section V, Northern Spotted Owl Information, pages 337-385. What type of owl calls were used during surveys? Was a speaker used for calling? Please provide information on the type of survey effort. The survey data sheets for 15 survey visits, pages 358-373, show survey times occurring between 07:30 at the earliest and 14:05 at the latest, with the average start times occurring 2.5 to 3 hours after sunrise. Why were survey visits conducted during a time of day with the lowest likelihood of NSO detection? Why weren't surveys conducted during crepuscular hours or during a time frame as close to the nighttime as possible, and if necessary, extended each survey pass over the course of multiple days in order to get the surveys as close to sunset and sunrise as possible? On page 359, the survey data sheet for the one follow-up survey on 4/12/18 shows the survey time starting at 0500. Why weren't the surveys, if not able to be conducted close to sunset, then conducted at this early morning sunrise time period? Please provide a discussion of these alternative survey methods and information about future survey effort that will adhere to crepuscular hours.

21. Section V, Northern Spotted Owl Information, page 357. The NSO Survey Stations map shows stations located along ridgelines that are far from the illegal trespass areas located along Neely Road and Mays Canyon and at least one station appears to be within or near the Russian River Water Treatment Center, a locked facility with gates and fencing. Why were these call stations that occur outside of the zones of trespass and in areas that provide secure access not surveyed between sunset and sunrise? Were other safety measures and alternatives, such as surveying with multiple people, surveying along roads and/or while next to a vehicle, utilizing the landowners existing personnel that patrol the property for added security, and/or the deployment of ARUs in conjunction with in-person surveys considered? Please provide a discussion of the consideration into these alternative survey methods. Please consider providing a map depicting the locations and scope of trespass areas to assist in evaluating each survey station location.

22. Section V, Northern Spotted Owl Information, NSO Survey Stations Map, page 357. Survey station #8 appears to be directly adjacent to the Russian River which sees high flows during the winter and spring months. Some of the survey dates occur in March and April when high flows could create noise interference. Was Station 8 evaluated for noise and listening ability during those months to determine if the stations were spaced too far apart to adequately provide survey coverage for that portion of the THP area?

23. Section V, Northern Spotted Owl Information, pages 358-359. The first survey conducted on 4/11/18, page 358, states one hoot response was heard 500 feet across the river in a clump of redwoods at Station 8 between 1046 and 1056 am. What type of hoot was observed? Was the response an unknown Strix or other owl species? The follow-up survey conducted on 4/12/2018, page 359, states the surveyor hooted at Station 8 from 0500 to 0530 with no response. This follow-up effort appears to be only 30 minutes in duration and entirely conducted from one location, distant from the nocturnal survey location. The protocol prescribes an on-foot search of the best habitat within a 0.5-mile radius of the nocturnal detection location, broadcasting, listening, and actively searching for whitewash, pellets, feathers, and owls silently flying in. Was it possible for the surveyor to get closer to the detection location during the follow-up visit? Could the surveyor have searched at least part of the 0.5-mile radius area on-foot as well as calling from a distance? Could the surveyor have called for longer than 30 minutes and moved around even if only on their own property?

24. Section V, Northern Spotted Owl Information, Survey Data Sheet, page 358. The survey conducted on 4/11/18 states at Station 3 from 12:17 to 12:27 two ravens and two Steller's jays were heard. Mobbing jays and other corvid activity may indicate the presence of a NSO or other Strix species. Was the raven and Steller jay activity investigated?

25. Section V, Northern Spotted Owl Information, pages 337-385. The "Additional Surveys" section on page 347 states, "This NSO consultation is effective until 01FEB2021. Re-consultation will be completed…", this language is in a survey report not a formal agency consultation, please address this discrepancy. This section states, "Timber harvests require NSO surveys according to USFWS and CAL-FIRE protocols." what is the CALFIRE NSO protocol? Additionally, this section states, "If a northern spotted owl is detected during operations, all harvest activities shall be halted, and CAL-FIRE will be consulted to determine adequate protection measures." Please revise this statement to include consultation with CDFW should NSO be detected.

CDFW recommendations #12 and 17 from the PHI Report, dated July 31, 2020:

12. During the first review process, CDFW brought to attention discrepancies in Section II, Item 32(a) of the THP regarding northern spotted owl protections. The habitat definitions and retention standards described appeared to be from Attachment B instead of Attachment A, which contains the take avoidance measures for northern spotted owls in the coast forest district. In the RPF response to first review, the definitions and retention standards were not corrected, and Attachment B was referenced near the beginning of Item 32 within the northern spotted owl protections.

CDFW recommends in Section II, Item 32(a), the protection measures for NSO be revised to reflect the definitions and retention standards for Attachment A, the November 1,2019 revision. Justification: The take avoidance measures should reference the appropriate ecotype, allowing the review team to evaluate the proposed measures for NSO take avoidance.

17. During the first review process and through a Northern Spotted Owl (NSO) consultation, CDFW brought to attention concerns with the timing and stations of the NSO surveys that may affect the quality of the survey data, resulting in a possible false negative finding. The RPF agreed to supplement the survey effort with three additional surveys in 2020 conducted as close as possible to the crepuscular hours and one additional thorough Stand Search of the THP area. Efforts to obtain NSO survey information from past THPs on the property were ongoing at the time of the PHI, and the RPF was able to provide eight years of NSO survey data from a neighboring NTMP during first review. The additional survey efforts and any past survey data will allow CDFW to make a higher confidence determination regarding take avoidance.

CDFW recommends, prior to second review, the RPF amend into the THP the NSO consultation email correspondence from CDFW dated July 9, 2020, the survey data from three surveys in 2020, the stand search maps & data sheets, and any past property survey data if available. Justification: To make a determination on NSO take avoidance, all available survey data should be provided to CDFW for review and evaluation.

CDFW Second Review recommendations, dated December 29, 2020:

1. CDFW Rec #1, Sect. II NSO Protection Measures.

a. Page 78, #4(a) states "... and no logs are yarded through the core area." This statement does not address the creation of new cable roads or corridors or skid roads or trails in the core use area. Please consider revising to encompass all of the possibilities spelled out in Attachment A.

CDFW Comment: The revised page 78, dated 12/7/2020, still does not address new cable roads & corridors, new skid roads & trails. Please revise #4(a) on page 78 to specifically state in the parentheses after 'Limited Timber Operations': new cable roads, cable corridors, skid roads, skid trails.

b. Page 79.2, Road Use, #1 states "Following an activity center search (2012 NSO Protocol) on or after May 15, the NSO is determined to be absent, non-nesting, or nest failed, or;" Attachment A, page 7 says that protocol level surveys are used to determine that either NSO are non-nesting or that nesting has failed, it does not specify 'absence'. Considering the language of Attachment A, and that no NSO detections during surveys does not equate to NSO being absent in the area (an absence of evidence is not evidence of absence), please revise this statement.

CDFW Comment: The revised page 79.2, dated 12/7/2020, does not appear to have any changes made to this section. Please remove the word "absence" from this sentence as it is not mirrored in the language in Attachment A, and no NSO detections during surveys does not equate to NSO being absent in the area.

3. Section II, Item 14(d), Timber Marking, pages 12-13. The NSO surveys conducted during July 2020 resulted in a new NSO AC being discovered in the southeastern corner of the THP area. As a result, a no-harvest core area was designated around that AC location. During the PHI the review team did not traverse across the entire core area and therefore CDFW is not aware if trees were marked for harvest in the core area prior to the core area delineation. If trees are marked for harvest in the core area, CDFW recommends the THP be revised to state the harvest mark will be blacked out or otherwise altered to indicate no harvest.

4. Section II, Item 32(a), NSO, page 78. The RPF responses dated 12/16/2020 stated in response to CDFW # 1 (h) "There are no Road Use Exceptions proposed in this THP." There appears to be another location on page 78 that references road use exceptions, please delete the reference to road use exceptions and Section V in the 'Exceptions to Attachment A:' paragraph located between 3(b) and 4.

5. Section II, Item 32(a), NSO, page 79. The statement after #5, "For NSO AC's where reproductive status has been determined to be nesting:" does not include instances of nesting unknown or nesting presumed according to the protocol. Please consider revising this statement to specifically include unknown nesting and presumed nesting.

6. Section II, Item 32(a), NSO, page 79.2. Under Road Use #3 it states, "After July 9 until the end of the breeding season road use...". This statement is missing an 'and' between "July 9" and "until the end…". Please revise.

7. Section II, Yarding Methods Map, page 92. The yarding methods map dated 10/20/2020 includes the NSO AC & buffers, the revised yarding methods map dated 12/7/2020 omitted the NSO AC & buffers. Please revise this map to include the AC & buffers.

8. Section II, Maps, pages 88-93.1. The NSO AC (SONOOOO, placeholder name), located in the southeast corner of the THP, is identified on the majority of the THP maps along with the core area and 1000-foot buffer. The 0.25-mile noise disturbance buffer described in Section II, Item 32(a), is not shown on any of the maps. Given the road use restrictions associated with this buffer, please include this buffer on the silviculture, yarding and appurtenant road maps at a minimum.

The RPF Responses to Review Team questions and recommendations revised protection measures for NSO in THP Section II, Item #32.a. (pages 77 – 79.2):

Northern Spotted Owl
According to the Northern Spotted Owl data base there is one NSO AC within the BAA-SON0076. A daytime search was conducted in the vicinity of SON0076 looking for evidence of NSO on 25APR19, and 09MAR20, and no NSO's were found. However, more nighttime and daytime surveys were conducted closer to crepuscular hours in 2020 which resulted in positive NSO detections and an additional AC within the THP area. SON-0000 was placed over the best detection area. Spot checks for the southeastern portion of the THP will be conducted in 2021 to help further located the NSO's.

For SON-0000:

- *The 100-acre Core Area has been established around the new AC location containing the highest-quality nesting /roosting habitat contiguous with the AC.*
- *Within 1,000 feet of the AC there shall be no habitat downgrading between pre-harvest and post-harvest stands.*

Note to LTO:
1. No operations shall occur until all required surveys have been provided to CAL-FIRE, evaluated for consistency with the plan and protocols, and amended into the plan. Pursuant to 14 CCR 939.9(e), this THP is using Scenario 4. The person submitting the original plan or the successor in interest will submit subsequent consultations to the Department as enforceable amendments to the plan prior to operations being conducted pursuant to that consultation. Surveys shall be conducted pursuant to the most current, approved survey protocol.

Also, habitat retention, standard protection measures, operational limitations, and surveys shall be conducted in compliance with Attachment A for the Coast Forest District. NSO surveys for 2019 have been included in the THP and are located in Section V. There are no NSO AC's within 1,000 feet of THP. See NSO information in Section V for details of surveys and NSO.

Activity Center Protections
For all known NSO activity centers, timber operations should adhere to the following recommendations outlined in Attachment A:

5. Road Use: To avoid take of NSO from noise disturbance during the breeding season, road use within 0.25-mile of an occupied NSO activity center should not occur until July 10 unless:
   a. Protocol surveys determine the NSO are not nesting, or that nesting has failed.
   b. The activity center is within 165 feet of a major highway that typically has high traffic year-round (Hwy 1, 36, 101, 128, 299, etc.) and the appurtenant road is not within 165 feet of the activity center.
   c. After July 9th and until the end of the breeding season, road use within any core use area should be limited to use of existing roads, maintenance, and map point work.
   d. Use and maintenance of roads within 0.25-mile of an occupied NSO activity center may be allowed during the breeding season where it can be shown to avoid take of NSO through use of other buffer distances according to USFWS 2020 (Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California), or according to previous USFWS Technical Assistance. See THP Section V, NSO Take Avoidance Determination, for details.

6. Timber Harvest Operations: A 0.25-mile seasonal restriction on timber operations (except for road use after July 9th) applies to every HRAC during the breeding season, unless it is determined via a site monitoring visit, "activity center search" (Revised 2011 NSO Survey Protocol), that NSO are not nesting, or nesting failure has occurred. If it cannot be determined whether NSO are nesting, or nesting failure cannot be determined, the 0.25-mile seasonal restriction should stay in effect for timber operations until after July 31st. In lieu of the standard distance of 0.25-mile, an alternate buffer consistent with USFWS (2020) may be proposed. See THP Section V, NSO Take Avoidance Determination, for details.
   a. Within the 100-acre core use areas:

i. Outside the breeding season, limited timber operations (i.e., only road use and maintenance, map point work, tail-hold placements, use of existing skid roads, and loading) may be conducted, provided no trees >11" DBH are cut or removed by the operations, and no new cable corridors, skid trails, or roads are constructed in the core use area.
ii. During the NSO breeding season, timber operations (including use of roads before July 9), should not occur within any core use area, except as allowed in subsections d and e, below.

b. Timber operations outside any core use area, but within 0.25 mile of an HRAC:
i. Outside the breeding season, timber operations may be conducted.
ii. During the breeding season, timber operations should not proceed unless protocol surveys determine that nesting NSOs are not present or that nesting has failed.

c. For all NSO activity centers, prior to May 15th (until the recommended May 15 or later survey is completed):
i. Timber operations (except helicopter yarding or staging) should be conducted only >0.25 mile from the HRAC.
ii. Helicopter yarding and staging should occur only >0.5 mile from the HRAC.

d. For NSO activity centers where current nesting status has been determined (to protocol) to be non-nesting or failed nesting, or when fledglings are greater than 0.25 miles from the nest tree:
i. Limited timber operations (road use and maintenance, map point work, use of existing skid roads, tail-hold placements and loading) may be conducted within any core use area of the activity center provided no trees >11" DBH are cut or removed by the operations, and no new cable roads or corridors or skid roads or trails are created in the core use area.
ii. Full timber operations, including helicopter yarding and staging, may be conducted within 0.25 mile but not within any core use area. Helicopter flyovers should not occur within 1,000 feet of the activity center.

e. For NSO activity centers, where status has been determined to be nesting, nesting unknown, or nesting is presumed according to the Revised 2011 NSO Survey Protocol:
i. For activity centers where fledging status has not been determined, timber operations should be conducted only in approved THP areas that are >0.25 mile from the HRAC until the end of the breeding season.
ii. Helicopter yarding and staging should occur only on approved THP areas >0.5 mile from the HRAC.

f. For any NSO activity center, regardless of current nesting status:
i. If the NSO move to a new location (>1,000 feet from the historical activity center), the appropriate protection measures should be provided to each activity center, or consultation with NSO review agencies should occur to evaluate the status of what may be multiple activity centers.

If any new NSO activity centers are discovered within 0.25-mile of the THP, a 0.25-mile temporary buffer shall be established around the activity center, consistent with the protection measures in item 5 and 6 above, until consultation with the NSO review agencies has been completed.

CAL FIRE has determined the THP, in combination with the proper implementation of the Forest Practice Rules, are sufficient to ensure take of NSO will be avoided.

27. CONCERN: Potential Impacts to Anadromous Salmonids

Some members of the public expressed concerns about potential impacts to anadromous salmonids and their habitat as a result of timber operations proposed under the THP.

Response: Please refer to previous responses #3, #7, and #19.
The THP proposes 208 acres of combined single-tree selection, group selection and transition harvest within three CALWATER version 2.2 planning watersheds: #1114.110301 "Pocket Canyon" watershed, which is 4,232 acres; #1114.110302 "Hulbert Creek" watershed, which is 10,884 acres; and #1114.110303 "Dutch Bill Creek" watershed, which is 12,624 acres. CAL FIRE and the RPF are aware of steelhead (*Oncorhynchus mykiss*), coho (*Oncorhynchus kisutch),* chinook salmon (*Oncorhynchus tshawytscha*) presence in the Russian River, to which the THP area drains. This watershed meets the 14 CCR 895.1 definition of a Watershed with Listed Anadromous Salmonids (WLAS). As such, any forest practice rules that are required in a WLAS apply to this THP. Note that surveys for salmonids are not required to be completed prior to the submission of a THP. The species are assumed to be present from past surveys, or the presence of habitat, and therefore, mitigation measures are implemented to maintain and enhance habitat.

The causes of salmonid decline have been linked to many factors including loss of suitable habitat, legacy land uses, interaction with hatchery fish, overfishing, climatic factors such as drought and precipitation timing, and oceanic conditions. Timber operations can threaten salmonid habitat through increases in temperature and sediment. The THP provides mitigations for these potential impacts through erosion control measures in Item 18, winter period restrictions in Item 23, road construction and maintenance standards in Item 24, watercourse protection in Item 26, and in-lieu practice-related mitigations for WLPZ skid trail and landing use in Item 27. Many of these standards were developed through the California Forest Practice Rule's 2009 Anadromous Salmonid Protection (ASP) rules and 2013 Road Rules package discussed elsewhere in this document.

The (ASP) rules were approved in 2009 by the State Board of Forestry and Fire Protection (BOF). The ASP rules are intended to protect, maintain, and improve riparian habitats for state and federally listed anadromous salmonid species. These rules are permanent and replaced the interim Threatened or Impaired Watershed Rules (T/I Rules) which were originally adopted in July 2000 and subsequently readopted six times.

The RPF has mapped all watercourses within the THP area. During the PHI, the review team inspected identified watercourses and proposed protections, including the portions of WLPZ skid trail and landings proposed for use as in-lieu practices. The PHI team found the watercourses were appropriately identified, and in-lieu practice and other protection measures were consistent with the FPRs.

Items 26, 27, and 32 of the THP discuss the presence of anadromous salmonids in the THP area and describe the measures for their protection including reliance upon the ASP Rules. As specified in item 26 of the THP, the THP will comply with all watercourse shade canopy retention standards specified in the Anadromous Salmonid Protection Rules, 14 CCR § 916.9, *et seq.* The THP specifies falling of trees in WLPZ areas for cable yarder corridor clearance. As specified by the RPF, trees felled for cable yarder corridor clearance in designated WLPZ core zones will be left on site to serve as Large Woody Debris (LWD). LWD is widely recognized as an important component in the creation of instream salmonid habitat and overall stream function. Trees felled within WLPZ inner zones may be yarded, however canopy retention standards will be maintained.

The BOF's 2013 Forest Practice "Road Rules" were developed over a 14-year period and included considerable work provided by two BOF committees. The BOF's primary objectives in adopting the new road rules were to ensure that the road-related Forest Practice Rules are adequate to prevent adverse impacts to beneficial uses of water, and to consolidate all road-related Forest Practice Rules into a logical, consistent order located within one portion of the Forest Practice Rulebook for ease of reference and understanding by all.

Existing and proposed roads can be a significant source of sediment harmful to anadromous salmonids. The THP's existing landings and roads, and short segment of proposed reconstructed road were evaluated during the PHI field inspection by the multiagency review team. The review team concurred with the proposed use of the THP road and landing network. As discussed elsewhere in this Official Response document, the THP includes an Erosion Control Plan (ECP) required by the NCRWQCB in THP Section V. The ECP documents an inventory, prioritization, and proposed treatment of potential Controllable Sediment Discharge Sources (CSDS) in the plan area. There are fourteen (14) CSDS's identified in the THP, the treatment of which will result in the remediation of existing discharge sources. The FPRs require that all roads be maintained during the life of the THP as well as 3 years after completion of operations.

For all these reasons, CAL FIRE has determined the THP and all mitigations identified within it for protection of beneficial uses of water, in combination with the Forest Practice Rules is sufficiently protective of water quality.

28. CONCERN: Townsend's Big-Eared Bat

Some members of the public expressed concerns about the adequacy of THP scoping and protection measures for Townsend's big-eared bat.

Response: Section II, Item 32(c) of the THP identifies Townsend's big-eared bat (*Corynorhinus townsendii*), a CDFW Species of Special Concern, as a non-listed species that could occur in the THP, though none were observed during field layout of the THP. Section IV of the THP contains a more extensive discussion of the range/distribution/abundance, life history, feeding. threats, habitat availability, and migrations for protection of the species. The RPF notes that the provisions of THP Item 14(g) for retention and protection of special habitat elements such as basal hollows in large redwood trees would benefit any potential occurrences of the species in the THP area. The RPF further specified that any occurrence of Townsend's big-eared bat during timber operations would result in a halt to all operations within 200 feet and the contact of CDFW for development of site-specific mitigation measures for amendment into the plan.

CAL FIRE has evaluated the THP's provision for Townsend's big-eared bat and determined the likelihood of adverse impacts to the species are less than significant. A representative of CDFW participated in the review of the THP, including the field PHI and made multiple recommendations for inclusion in the THP. CDFW expressed no concerns about the THP's scoping and habitat provisions for Townsend's big-eared bat and no recommendations for inclusion in the THP were provided.

The RPF's scoping for this species, habitat protection measures contained within the THP including the special habitat elements to be retained, and operational shutdown measures with CDFW

consultation are appropriate. The unevenaged silviculture proposed within the THP itself provides sufficient retention of long-term habitat elements for the benefit of the species.

29. CONCERN: Bald Eagle

Some members of the public expressed concerns about the adequacy of THP scoping and protection measures for bald eagle.

Response: Section II, Item 32(a) of the THP provides scoping information for bald eagle (*Haliaeetus leucocephalus*), a State-listed endangered species, and Board of Forestry and Fire Protection "Sensitive Species." The RPF states there are no known occurrences in the THP area. The THP includes the minimum protection measures for the species found in the Forest Practice Rules in the event the species is observed in the THP area [ref. 14 CCR § 919.3(c)]. Section IV of the THP also contains brief discussion of the habits and habitat of the species. The RPF observes that while no occurrences were detected during field preparation of the THP, the species could possibly use the habitat features within and around the THP area; and these features and habitat elements will be retained immediately post-harvest.

CAL FIRE has evaluated the THP's provision for bald eagle and determined the likelihood of adverse impacts to the species are less than significant. A representative of CDFW participated in the review of the THP, including the field PHI and made multiple recommendations for inclusion in the THP. CDFW expressed no concerns about the THP's scoping and habitat provisions for bald eagle and no recommendations for inclusion in the THP were provided.

The RPF's scoping for this species and specification of the Forest Practice Rule minimum protection measures in the THP in the event of a species occurrence in the THP area are appropriate. The unevenaged silviculture proposed within the THP itself provides sufficient retention of long-term habitat elements for the benefit of the species.

30. CONCERN: Homeless Encampments

Some members of the public expressed concerns that the homeless encampments within the THP area have not been properly addressed.

Response: THP Section IV, Cumulative Impacts Assessment (pages 201-205) includes a summary of impacts from homeless encampments including trespassing, littering, and illegal cannabis grows. This section includes photographs taken from various encampments throughout the project area.

A multiagency review team consisting of CAL FIRE, CDFW, CGS, NCRWQCB and RRCSD conducted a PHI of the THP area on July 24, 2020. The CALFIRE PHI Report, dated July 31st, 2020 states:

> *Trespass is of considerable concern throughout the plan area. As observed during the PHI, numerous homeless encampments consisting of makeshift homes are located predominantly within the watercourses themselves. Illegal campfires, raw sewage, excess garbage, vandalism, illegal dumping are pronounced within these areas. Many of these dwellings were occupied during the PHI. (Page 6)*

> *There is significant trespass throughout the plan area. Many active homeless encampments were observed during the PHI. The Inspector witnessed actively burning warming fires within the homeless encampments during the PHI. There is a current significant fire threat from these fires. The proposed timber harvesting will treat some of the fire hazards. Through the implementation of the THP, the fire threat will be reduced by treating the horizontal and vertical continuity of the fuels. (Page 8).*

Additionally, the multiagency review team consisting of CAL FIRE, CDFW, CGS, NCRWQCB and RRCSD conducted a PHI of the THP area on July 24, 2020. The NCRWQCB PHI Report, dated August 5th, 2020 recommended that a Pollution Prevention Plan be prepared for the THP.

> *During the PHI, RWB staff observed many homeless encampments, both occupied and abandoned. All of these sites and other sites throughout the plan area were littered with trash, some of which may contain toxic substances. RWB staff observed one small (~5 gallon) tank of refrigerant and numerous camping gas tanks. Several of these sites were situated in the channels of Class II and III watercourses.*
>
> *RWB staff recommends removal of anthropogenic debris and any potentially toxic materials that is in, adjacent to, or has potential to discharge into a watercourse. Prior to second review, the RPF shall submit to the Regional Water Board, a pollution prevention plan detailing the manner of debris and toxic material removal and describing methods of storage and disposal of such material. If removal of the material requires operating equipment in an ELZ or WLPZ, the RPF shall revise the THP to include the appropriate in-lieu practice (RWB recommendation 3.)*

The RPF Response to the NCRWQCB Review Team question and recommendation included the *Silver Estates Pollution Prevention and Removal Plan*, which has been included in Section V on pages 289.1-289.8.

The *Silver Estates Pollution Prevention and Removal Plan* addresses the proper removal of General Waste and Toxic Waste. The plan describes five different sites and outlines the removal of pollution from each location. The Pollution Prevention Plan outlines the steps the landowner has done in the past and will continue to into the future to prevent Trespass and Pollution. The plan states:

> *The Sonoma County Sheriff's office has been contacted several times throughout the last 20 years regarding the Trespass and Littering issues associated with the Silver Estates Property. The landowner has been issued a Trespass Action Request by the Sheriff's office, this allows the Sonoma County Sheriff's office to regularly patrol the area and issue trespass violations to trespassers.*
>
> *The property access roads have locked gates and "No Trespassing" signage clearly posted at multiple locations around the access road entrances. The landowner has also installed tank traps, large boulder walls, and cable fences near the entrances to prevent trespassers.*
>
> *These prevention measures to keep out trespassers shall be maintained and regularly patrolled to make sure they are in place and functioning. If any of the prevention measures listed above are vandalized, stolen, or broken, deeming them non-functional, they shall be replaced by the landowner as soon as possible.*

CAL FIRE has evaluated the concern and concluded the THP has sufficiently addressed it through ongoing efforts to control persistent trespass and the *Silver Estates Pollution Prevention and Removal Plan* incorporated in the THP pursuant to the recommendation of the NCRWQCB.

31. CONCERN: Sudden Oak Death Risk

Some members of the public have expressed concerns that Sudden Oak Death has not been adequately addressed.

RESPONSE: Sudden Oak Death is a tree disease caused by the fungus-pathogen *Phytophthora ramorum.* First recognized in the mid 1990's, the disease kills some oak species (primarily coast live oak and tan oak). *Phytophthora ramorum* was inadvertently introduced to California forest on nursery stock (suddenoakdeath.org, 2022).

Section II, Item 15 states the following:

> *Sudden Oak Death*
> *The THP area is within the Sudden Oak Death (SOD) Zone of Infestation. SOD appears to exist within and surrounding the plan area but has not been confirmed. For compliance with CDFA [California Department of Food and Agriculture] regulations, and for the THP to act as a compliance agreement, THPs located in the SOD Zone of Infestation (ZOI) need to address mitigation measures to avoid movement of host material (ref also 14 CCR 917.9 and 917.10).*

Mitigation measures to prevent the spread of project exposed SOD are outlined on pages 17-19.

Firewood is permitted to be harvested from the THP area, so long as such wood is not smaller than four inches in diameter and does not leave the existing Zone of Infestation. The only host material that will be permitted for harvest for commercial purposes are Douglas-fir, coastal redwood, tanoak/ madrone logs and redwood basal burls. They may be harvested and shipped to destinations within the Zone of Infestation.

The mitigations provided in the THP address the concerns of SOD within the project area.
Within the PHI Report dated 7/31/2020, CAL FIRE stated the following based on the concern of SOD:

- *On page 7, item 49 (a) Does the plan accurately disclose any current forest insect or disease problems?* ***YES***
- *Item 49 (b) Do the mitigation measures contained in the plan limit the spread of forest insects or disease?* ***YES***

The THP properly recognizes that Sudden Oak Death is a forest health risk and provides thorough guidance on how the project-based operations will mitigate the spread of this water mold pathogen. Adherence to the Best Management Practices (BMPs) within the THP coupled with the Forest Practice Rules will mitigate any potential impacts from Sudden Oak Death.

32. CONCERN: Adequacy of Project Alternatives

Some members of the public have expressed concerns that the THP does not adequately consider project alternatives, specifically public acquisition or a conservation easement.

RESPONSE: The THP's analysis of project alternatives (THP pages 104-107.6 in Section III) provides an in-depth consideration and discussion of alternatives to the proposed project. The THP describes and evaluates a range of potential alternatives to the proposed project, including a conservation easement or public land purchase. The analysis of these two project alternatives (THP pages 107.3 & 107.4) explicitly addresses this concern:

> *While the THP was going through the initial review process, the Sonoma Land Trust reached out to the landowner regarding potential interest in the property and the effects on the properly of the proposed THP. A field tour was conducted on 12/11/2020. Those present included three representatives from the Sonoma Land Trust (SLT), a staff member from 5th District Supervisor Lynda Hopkins's office, a staff member from 4th District Supervisor James Gore's office, and two representatives of the landowner. The day included a tour of the property, a discussion of operations within the THP, a review of the proposed harvest operations within the flood prone area and around the Clar tree (a relic old growth tree and thought to be one of the largest trees in the County which will be protected and retained under this THP), a discussion of localized traffic impacts associated with the project along [Neeley] Road, impacts of homeless encampments on the property and in the local area, conservation easements and public land purchase options. SLT has since contacted the landowner and informed them that they are not interested in either an outright purchase or a conservation casement at this time as the property is being managed for sustainable timber management and for maintaining forest health under this THP, and that those goals are in line with the goals of their land trust.*

CAL FIRE has reviewed the THP's consideration and evaluation of alternatives to the proposed project and finds that it is consistent with the guidance provided to RPFs [ref. CAL FIRE Memo 19970610] as well as the guidelines for implementation of the California Environmental Quality Act [ref. 14 CCR § 15126.6].

SUMMARY AND CONCLUSIONS

As the Lead Agency, the Department recognizes its responsibility under the Forest Practice Act (FPA) and CEQA to determine whether environmental impacts will be significant and adverse. In the case of the management regime which is part of the THP, significant adverse impacts associated with the proposed application are not anticipated.

CAL FIRE has reviewed the potential impacts from the harvest and reviewed concerns from the public and finds that there will be no expected significant adverse environmental impacts from timber harvesting as described in the Official Response above. Mitigation measures contained in the plan and in the Forest Practice Rules adequately address potential significant adverse environmental effects.

CAL FIRE has considered all pertinent evidence and has determined that no significant adverse cumulative impacts are likely to result from implementing this THP. Pertinent evidence includes, but is not limited to the assessment done by the plan submitter in the watershed and biological assessment area and the knowledge that CAL FIRE has regarding activities that have occurred in the assessment area and surrounding areas where activities could potentially combine to create a significant cumulative impact. This determination is based on the framework provided by the FPA, CCR's, and additional mitigation measures specific to this THP.

CAL FIRE has supplemented the information contained in this THP in conformance with Title 14 CCR § 898, by considering and making known the data and reports which have been submitted from other agencies that reviewed the plan; by considering pertinent information from other timber harvesting documents including THP's, emergency notices, exemption notices, management plans, etc. and including project review documents from other non-CAL FIRE state, local and federal agencies where appropriate; by considering information from aerial photos and GIS databases and by considering information from the CAL FIRE maintained timber harvesting database; by technical knowledge of unit foresters who have reviewed numerous other timber harvesting operations; by reviewing technical publications and participating in research gathering efforts, and participating in training related to the effects of timber harvesting on forest values; by considering and making available to the RPF who prepares THP's, information submitted by the public.

CAL FIRE further finds that all pertinent issues and substantial questions raised by the public and submitted in writing have been addressed in this Official Response to Public Comment. Anyone who submitted a public comment and provided an address will receive a response with a copy of the OR, or a notification of where to obtain a copy online.

All concerns raised through the public comment process were reviewed and addressed. Along with the framework provided by the Forest Practice Act and the Rules of the Board of Forestry and Fire Protection, and the addition of the mitigation measures specific to this THP, the Department has determined that there should be no significant adverse environmental impacts resulting from the implementation of this THP. The Plan has been found to be in conformance with all pertinent rules and regulations.

REFERENCES

CAL FIRE Memo 19970610: California Department of Forestry and fire Protection Memorandum to Registered Professional Foresters – Analysis of Alternatives in Timber Harvesting Plans. June 10, 1997.

2022 California Forest Practice Rules and Forest Practice Act. Available on 11/17/22 at https://bof.fire.ca.gov/media/y5rfw50b/2022-fpr-and-fpa_ada.pdf

Sonoma County Right to Farm Ordinance, Chapter 30, Article II. Available on 11/17/22 at https://s30428.pcdn.co/wp-content/uploads/sites/2/2019/09/Sonoma_County_Right_to_Farm_1.pdf

California Oak Mortality Task Force. "Sudden Oak Death Guidelines for Forestry." July 2014. https://www.suddenoakdeath.org/wp-content/uploads/2014/12/forestry-08-10-with-new-2014-map.pdf