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Via Email Only (Please Confirm Receipt)

California Department of Forestry and Fire Protection
Forest Practice Program Manager and Review Team
Email: santarosapubliccomment@fire.ca.gov

Re: **Card THP (THP 1-26-00021-SON): Supplemental Technical Comments and Proposed Conditions of Approval on Behalf of Friends of Gualala River**

Dear Forest Practice Program Manager and Review Team:

On behalf of Friends of Gualala River ("FoGR"), we submit these supplemental comments before the Director's decision. FoGR supplements its prior comments, including its letters of July 6, August 21, September 3, and September 12, 2026. This letter does not withdraw, narrow, or replace any of those comments. FoGR asks that this letter be placed in the THP record and addressed in the Director's Official Response.

FoGR's objective is a Plan that protects the South Fork and North Fork Gualala River, their listed salmonids, and the floodplain forest that prior plans on this footprint were conditioned to protect. To that end, this letter identifies the outstanding issues FoGR regards as most significant and, for each, the specific and enforceable conditions that would address it. Identifying these conditions does not mean that FoGR considers other issues raised in its comments resolved.

I. Summary of Requests

FoGR respectfully requests that CAL FIRE:

1) Defer a decision on the Plan until a revised Plan incorporating the items below, including the final, executed Lake or Streambed Alteration Agreement ("LSAA") and Fisheries Impact Minimization Plan, is available for Review Team and public review;

2) Adopt the conditions proposed below as enforceable instructions to the Licensed Timber Operator ("LTO") in Section II, rather than as recommendations or future consultation;

3) Recirculate any significant new information or substantial revisions;

4) Request that the California Department of Fish and Wildlife ("CDFW") and the North Coast Regional Water Quality Control Board ("Regional Water Board") state in writing, for the record, the conditions each considers necessary on the issues within its jurisdiction; and

5) Identify the agencies and qualified specialists that conducted site-specific fisheries, riparian, and floodplain review of Card's proposed operations in the areas overlapping Kestrel; describe any recommendations they made and how the Plan incorporates or responds to them; and explain how the present review supplies technical evaluation equivalent to the NOAA, CDFW, Regional Water Board, CGS, and CAL FIRE field review documented for Kestrel;

6) Provide FoGR with written notice of the Director's decision and a copy of the Official Response when issued.

FoGR would also welcome a staff-level technical meeting with the Review Team agencies and the RPF, limited to these issues, provided that an agenda and materials are circulated in advance and a written summary is placed in the record.

II. Discussion

A. Class I Watercourse Crossings and the Deferred Streambed Alteration Agreement

Record. Section II, Item 26(e), states that the THP review process will be used to meet CDFW's CEQA review requirements, and states: "A finalized 1611 Agreement is pending approval and will be amended into the THP following plan approval." Item 26(f) states that no Fish and Game Code section 1600 exceptions are made an enforceable part of the Plan. The Plan therefore asks the Director to approve its most sensitive in-channel operations, temporary bridge crossings of Class I waters at Map Points 4 and 30 (South Fork), 607/670 (North Fork), 28 (Rockpile Creek), and 29 (Buckeye Creek), before the protective terms governing those operations are part of the Plan.[1]

Card's Section III contains a separate and consequential error in its vegetation and stand-condition baseline. It states that "[t]he plan area was last harvested under THP 1-11-087-MEN," although the Kestrel THP is 1-11-087-SON.[2] It then states that prior harvest history is unknown except for harvest "sometime in the last 40 to 60 years." Those statements are internally inconsistent and do not account for CAL FIRE's Kestrel (readily available) approval, amendment, operational, and completion records. Section III also acknowledges that portions of Card were excluded from the last timber harvest but does not identify or map those areas or explain whether they correspond to Kestrel no-cut, retained-tree, or otherwise unentered areas. CAL FIRE should require a corrected, spatially explicit harvest history that distinguishes Card acreage within and outside the Kestrel boundary, Kestrel units actually entered, Kestrel

[1] THP, Section II, pp. 61-62.

[2] Card THP, Section III, p. 113.

no-cut or otherwise unentered areas, and areas for which only older harvest evidence exists. The corrected baseline should support, rather than assume, Card's statements concerning present stand ages, diameters, stocking, and the asserted silvicultural benefits of renewed harvest.

CDFW's June 17, 2026 second-review memorandum identified specific deficiencies in the crossing information. Among other things, CDFW:

(a) noted that Item 32(a) states there will be no impacts to coho salmon, steelhead, or Chinook salmon habitat and proposes no mitigation, although the bridge crossings require heavy equipment to pass through flowing Class I water, and recommended that the Plan acknowledge temporary impacts;

(b) found that the fish-hazing method described for Map Point 4 conflicts with the Fisheries Impact Minimization Plan the LSAA will contain;

(c) asked the RPF to state whether heavy equipment will cross flowing water at Map Points 670, 28, 29, and 30 and, if so, to provide protections comparable to Map Point 4; and

(d) identified conflicts between the Map Point Table and the section 1611 notification for Map Points 9, 14, 17, and 19.

CDFW also reported that it had issued an incomplete-notification letter on May 4, 2026 and could not issue a draft LSAA until those conflicts were corrected.[3] In addition, the North Fork crossing appears as Map Point 670 in the Map Point Table but as Map Point 607 in the section 1611 table.[4]

Kestrel's 2012 replacement section 1600 materials described its proposed temporary bridges, equipment entry into the channel, abutments, approach gravel, removal, and potential fish and channel effects before second review. That history shows the importance of disclosing the physical work and its effects during THP review. Kestrel's older fish-hazing proposal does not answer CDFW's present objections to Card, and the response packet does not establish that an executed Kestrel LSAA preceded approval.

CAL FIRE's Kestrel response stated that all applicable Forest Practice Rules bind a plan proponent even if they are not repeated in the THP. That general proposition does not resolve Card's present deficiency. In Kestrel, CAL FIRE also relied on disclosed plan-specific measures, a completed multidisciplinary field review, watercourse protections it found exceeded the Rules, and NOAA-generated mitigation road points. Here, the final LSAA and Fisheries Impact Minimization Plan are not yet part of Card, and CDFW has identified unresolved factual conflicts concerning the Class I crossings. CAL FIRE should identify before approval the crossing methods

[3] CDFW, Second Review Memorandum, dated June 17, 2026, pp. 1–3.

[4] THP, Section II, p. 90.

and protective measures on which its impact determination depends and make those measures enforceable in the Plan.

Proposed conditions.

(a) Incorporate the executed LSAA and Fisheries Impact Minimization Plan into the Plan before approval, and restate their crossing, fish-relocation, and water-drafting measures as enforceable LTO instructions in Section II. If CAL FIRE proposes to approve the Plan before the LSAA is executed, it should first disclose in the THP all activities and protective measures on which its impact determination depends, explain how any later LSAA conditions will be reconciled with the approved Plan, and recirculate material revisions as required.

(b) Revise Item 32(a) to acknowledge the temporary impacts of the Class I bridge crossings on salmonid habitat and to identify the measures that avoid or minimize them.

(c) For each Class I crossing (Map Points 4, 30, 607/670, 28, and 29), state whether heavy equipment will enter or cross flowing water and, where it will, require compliance with the Fisheries Impact Minimization Plan in place of the hazing method now described.

(d) Reconcile the Map Point Table with the section 1611 notification for Map Points 9, 14, 17, and 19, and use a single map point number for the North Fork crossing (607/670).

(e) Specify the grading limits for the approach road on the gravel bar at Map Point 30 and require restoration of the gravel bar after use.[5]

(f) Require that passage for all life stages of anadromous salmonids be maintained at each Class I crossing throughout installation, use, and removal.

(g) State as enforceable LTO instructions the water-drafting limits applicable to Class I watercourses in watersheds with listed anadromous salmonids: a bypass flow of at least 2 cfs, diversion of no more than 10 percent of surface flow, and reduction of pool volume by no more than 10 percent.[6] Describe how source streamflow will be measured, when it will be remeasured, and how the drafting logs required by subdivision (l)(3)(F) will document compliance. Disclose before approval any modification CDFW proposes to make in the LSAA under subdivision (l)(3). Card's measures for drafting sites WD1 and WD2 cap diversion at 300 gallons per minute and require a bypass flow "sufficient to avoid dewatering," but do not state the numeric limits.[7]

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[5] *See id.*, pp. 43.1, 49.

[6] Cal. Code Regs., tit. 14 ("Forest Practice Rules"), § 923.7, subd. (l)(3)(E).

[7] THP, Section II, Items 24–25. p. 50; Forest Practice Rules, § 923.7, subds. (l)(2)(H), (l)(3)(E)–(F) (2026).

(h) Correct Section III's harvest-history and stand-condition baseline. The revised THP must:

(1) identify Kestrel as THP 1-11-087-SON;

(2) map Card acreage within and outside the Kestrel boundary;

(3) distinguish Kestrel units actually harvested from Kestrel no-cut, retained-tree, or otherwise unentered areas;

(4) identify the timing and method of the most recent known entry in each area; and

(5) identify any area for which pre-Kestrel harvest history remains unknown.

The discussion must correct the inaccurate and undifferentiated statement that the "entire area" was harvested 40 to 60 years ago to characterize areas entered under Kestrel or areas Kestrel left unharvested. Current stand-age, diameter, canopy, basal-area, and stocking descriptions should be supported by mapped current data for each relevant category.

B. Kestrel's Approval Relied on Site Specific Protections and Interagency Review Not Shown for Card

This letter refines the source attribution for several matters discussed in FoGR's September 3, 2026 letter without withdrawing its substantive requests. Kestrel's 37 no-cut acres combined rule-required channel and core areas with additional no-cut areas incorporated following agency consultation; the record reviewed here does not quantify the latter. The numeric water-drafting limits discussed below are Forest Practice Rule requirements rather than Kestrel-specific mitigation. CDFW's 2011 recommendation concerning the standard-selection area in Section 36 is relevant evidence concerning Card's current prescription. These distinctions reinforce the need for a mapped, measure-by-measure comparison of Kestrel and Card.

Record. Section IV states that Card's footprint was previously harvested under the Kestrel THP (1-11-087-SON) and has not been substantially entered since. Kestrel's approximately 37 no-cut acres included rule-required core and channel zones as well as areas identified during agency consultation; the record does not establish that all 37 acres were additional mitigation or quantify the agency-requested portion. Kestrel's final maps and operative prescriptions should be used to identify those portions.

CAL FIRE's August 29, 2012 Official Response confirms that its approval of Kestrel did not rest on the ASP Rules alone. In rejecting challenges to Kestrel's riparian protections, CAL FIRE relied on field review by CAL FIRE, CDFG, the Regional Water Board, CGS, and NOAA; selection harvest on 75 acres and no harvest on 37 acres; retention or recruitment of multistory large

canopy throughout the plan area; and the absence of intensive harvesting adjacent to WLPZs. CAL FIRE also found that Kestrel's watercourse measures exceeded the Rules.[8]

Those findings define the factual basis for CAL FIRE's Kestrel conclusion. Card proposes operations on an overlapping footprint under materially different prescriptions and with different seasonal terms. The Card record should therefore identify which Kestrel predicates remain true, which have changed, and what current evidence supports a finding of equivalent protection where Card does not retain them. FoGR does not contend that Kestrel legally requires identical measures in every later plan. It asks CAL FIRE to provide a reasoned, evidence-based explanation for any departure from the safeguards on which the Department previously relied at this site.

The Kestrel Official Response also states that NOAA pre-consultation resulted in mitigation road points for work on a road segment outside the THP boundary to restore salmonid habitat.[9] The present Card record does not identify comparable NOAA review, or an equivalent substitute, for the overlapping floodplain operations. CAL FIRE should identify whether NOAA, NMFS, CDFW, the Regional Water Board, or another qualified specialist evaluated those operations; describe the issues and information reviewed; state the resulting recommendations and how Card incorporates them; and explain whether the review considered the continuing applicability of Kestrel's protections. If no comparable review occurred, CAL FIRE should explain how its review supplied equivalent technical expertise. Without that explanation, the record does not show that Card received the site-specific fisheries and floodplain evaluation that informed Kestrel's protective measures.

The following comparisons concern measures that appear to have gone beyond rule requirements and require confirmation against the final approved Kestrel plan and amendments: [10]

(1) Riparian basal-area floors: Kestrel's Item 14(b) specified residual floors of 250 square feet per acre in the first 75 feet, 175 square feet per acre from 75 to 150 feet in Inner Zone A, and 125 square feet per acre in Inner Zone B. Card should identify the corresponding zones and explain its proposed residual structure there.

(2) Harvest method and scale: Kestrel used single-tree selection within the identified floodplain stands. Card proposes group selection on approximately 60 acres outside

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[8] CAL FIRE, Official Response to Significant Environmental Points Raised During Public Review of THP 1-11-087-SON (Aug. 29, 2012) ("Kestrel Official Response"), pp. 2-3.

[9] Kestrel Official Response, pp. 3-4. FoGR submits with these comments as Exhibit A the September 13, 2011 technical-assistance letter from the National Marine Fisheries Service ("NMFS," a division within NOAA) to Gualala Redwoods, Inc. concerning the Kestrel THP. The letter, which was copied to CAL FIRE, documents NMFS's site inspection, technical review, identification of site-specific salmonid habitat functions, and evaluation of the additional protections incorporated into Kestrel.

[10] THP, p. 135.

the WLPZ, with group clearings of up to 2.5 acres covering up to one-third of the group-selection area. Map the overlap and explain how the changed method and scale affect riparian structure and the nearby watercourses; do not assume that all 60 acres perform the same riparian function.[11]

(3) Marbled murrelet platform-tree retention: Kestrel's approved Section II required that timber operations not commence until protocol marbled murrelet survey results had been submitted to and approved by DFG and all resulting correspondence and take-avoidance recommendations had been incorporated into the THP. CDFG's December 21, 2011 PHI report documented approximately 33 remnant large-diameter redwoods at 17 locations along the South Fork as supporting potential nesting structure, while noting that a portion of the delineated habitat extended upstream of the THP. The publicly-available record does not establish that a later Kestrel amendment designated particular platform trees for mandatory retention. Card, however, relies on a reported September 13, 2022 CDFW pre-consultation determination that South Fork habitat was "not suitable." CAL FIRE should place that determination and its supporting information in the record and reconcile it with CDFG's earlier habitat observations before relying on it.

(4) No-cut areas identified through agency consultation beyond the rule-required zones: identify the locations from Kestrel's approved no-cut and retention maps and determine whether Card overlaps them.

(5) Class I floodplain buffers and stand structure: NMFS evaluated Kestrel's 70-foot no-harvest core along the South Fork; the adjoining Inner Zone A requirements for 80-percent overstory conifer canopy, retention of the 13 largest trees per acre, and increased quadratic mean diameter; the Inner Zone B canopy and large-tree requirements; and the elevated conifer basal-area floors. NMFS later identified these measures as reducing risks associated with altered hydrology, loss of large-wood recruitment, increased stream temperature, and sediment delivery. Card should map the areas in which those protections applied, provide current stand and floodplain conditions, and compare Card's proposed residual canopy, large-tree retention, basal area, equipment use, and silvicultural openings with the functions those measures were intended to protect.

(6) Off-plan road drainage and stormwater work: The NMFS Technical Assistance Letter documents Kestrel's proposal to stormproof and decommission approximately 0.96 mile of road outside the harvest area, including decommissioning two watercourse crossings, storm-proofing five crossings, and hydrologically disconnecting the remaining road segments. NMFS described that work as a beneficial measure not otherwise required because the road would not be used for Kestrel operations and reported an estimated reduction of approximately 495 cubic yards of future sediment delivery. The letter establishes the measure's purpose and anticipated benefit, but not its completion or present effectiveness. Card should identify the

[11] THP, Section II, Item 14.

work actually completed, inspect its current condition, and require repair or replacement of any failed treatment or renewed sediment-delivery pathway.[12]

(7) Large-wood work and monitoring: Kestrel's 2012 replacement pages identified proposed South Fork placements and required an effectiveness inspection after at least one winter period, followed by a report to CDFW. Card should disclose what was placed, what the monitoring found, and whether the locations or functions would be affected by Card.

The Department of Fish and Game's December 21, 2011 Kestrel pre-harvest inspection report, submitted with FoGR's September 3 letter, identified approximately 10 acres of standard-selection area in Section 36 between the seasonal road and the WLPZ as part of the riparian setting affected by adjacent hillslope clearcuts. It recommended retaining at least 50 percent overstory canopy, including 25 percent conifer, and increasing conifer size. The RPF's July 2012 response disputed the need to change the existing mark, relying on plots and predicted postharvest structure. In subsequent correspondence, CDFW recommended retaining more trees over 18 inches and limiting removal of trees in the 28–42-inch class; it had not withdrawn its PHI recommendation before second review. The response does not, by itself, establish that CDFW's proposed mark or the RPF's assertion about CWHR Size Class 6 became a final Kestrel condition. Card again includes Section 36 and proposes group selection landward of the South Fork WLPZ. It should disclose current conditions and the proposed mark in the overlapping area, evaluate whether CDFW's earlier concern persists, and identify enforceable measures responsive to that evidence. The PHI also documented approximately 33 remnant large redwoods at 17 locations with potential murrelet nesting structure.[13]

CAL FIRE's Kestrel Official Response states that Kestrel proposed no operations during the winter period from November 15 through April 1 and relied on that restriction in rejecting concerns about sediment, temporary crossings, roads, listed salmonids, and the 303(d)-listed watershed.[14] Card's Winter Period Operating Plan allows specified operations during the extended wet-weather period, including crossing reconstruction and landing use. CAL FIRE should evaluate that difference directly and explain how Card will avoid the sediment and habitat risks that Kestrel's seasonal prohibition helped address.

When an agency has adopted a mitigation measure for a prior project that continues to protect against that project's effects, it may not authorize its destruction or cancellation without reviewing its continuing need, stating a reason, and supporting that reason with substantial evidence. The Plan does not identify which adopted Kestrel measures or protected features remain operative or relevant to Card, whether Card would disturb them, or why any

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[12] Section II, Items 24–25, Map Point B; *see also* Exh. A, NMFS letter re Kestrel THP technical advisory.

[13] See CDFW, Pre-Harvest Inspection Report for Timber Harvesting Plan 1-11-087-SON "Kestrel," dated Dec. 21, 2011, p. 9-11.

[14] Kestrel Official Response, p. 3.

such change is justified. FoGR separately asks the Director to consider the earlier agency concerns when determining what Card's current conditions require. [15]

In July 2015, Amendment 7 to the Kestrel THP transferred the timberland owner from Gualala Redwoods, Inc. to Gualala Redwood Timber, LLC. The final completion, dated September 30, 2018, was approved in January 2019. If Card treats Kestrel as work performed under unrelated ownership, the Plan should reconcile that characterization with the amendment and completion record.

Proposed conditions.

(a) Map Card's harvest units, roads, landings, crossings, and drafting sites against Kestrel's final approved maps of no-cut areas, retained-tree zones, botanical sites, large-wood placements, and road treatments. Distinguish rule-required zones, adopted site-specific mitigation, recommendations not adopted, and distinguish between approved or proposed work whose actual implementation has not been verified; identify any adopted measure or protected feature that Card would disturb and explain, with evidence, whether its protective purpose remains.

(b) Provide a current inventory of canopy, conifer cover, basal area, and large-tree size classes in the affected Section 36 area. Compare Card's proposed residual stand with CDFW's stated riparian-restoration objective and adopt mapped, binding marking and retention standards responsive to the current evidence. Require full marking of the overlapping Section 36 area before approval, not merely before logging. Address the agency's concern about removal of larger overstory trees without describing its 2011 recommendation as an adopted Kestrel condition.

(c) Identify the final approved Kestrel basal-area floors and the stands in which it required single-tree selection; map any overlap with Card. The comparison must address the 250-, 175-, 125-, and 75-square-foot residual conifer basal-area standards and Kestrel's all-selection prescription, while recognizing that the 125-square-foot figure may duplicate the Site I stocking rule. Where Card changes a Kestrel prescription or protection on the overlapping footprint, identify the site-specific evidence supporting the change and explain how the replacement measure protects the same riparian, sediment-control, canopy, or habitat function. The comparison should address the factual predicates cited in CAL FIRE's Kestrel Official Response, including selection harvest, no intensive harvest adjacent to WLPZs, retained or recruited multistory canopy, the November 15 to April 1 winter restriction, and agency-generated salmonid measures.

(d) Revise Item 23 to state unambiguously that no timber falling, yarding, hauling, routine road or landing use, or watercourse-crossing work will occur from November 15 through

[15] *Katzeff v. Cal. Dept. of Forestry & Fire Protection* (2010) 181 Cal.App.4th 601, 614–615.

April 1, except agency-directed emergency stabilization or public-safety work. For operations authorized during the October 15–November 14 and April 1–May 1 shoulder periods, specify objective soil-moisture, road-stability, forecast, inspection, and stop-work criteria, and identify the crossing reconstruction or corrective work that may occur during those periods.

(e) Map the remnant large redwoods and potential nesting structures documented in CDFG's 2011 PHI to the extent their locations can be recovered, identify which fall within or adjacent to Card's operations, and place the September 13, 2022 CDFW habitat determination and its supporting assessment in the record. If suitable nesting structure remains, require current CDFW consultation and either protocol surveys or enforceable habitat and disturbance buffers before operations. Do not characterize any tree as protected by a Kestrel platform-tree amendment unless the operative amendment and tree-location record are produced.

(f) Inventory the drainage and stormwater work completed in connection with Kestrel, including relevant off-plan sites, and identify treatments that have failed or now present a sediment-delivery pathway. Require site-specific repair, replacement, or other effective stabilization for those sources, including Map Point B, with implementation and inspection deadlines.

(g) Map each Kestrel Class II-S reach against Card's proposed operations and identify whether each reach was classified under Kestrel as incised or non-incised. Conduct and disclose a current field evaluation addressing channel incision, bank definition and stability, floodplain elevation, South Fork backwatering, potential winter-refugia function, sediment conveyance, and large-wood recruitment. For each reach retaining the functions identified by NMFS, preserve or provide an equally protective replacement for Kestrel's additional measures, including the 15-foot no-harvest core and 70-percent canopy standard applicable to incised reaches; retention of channel- and bank-stability trees on non-incised reaches; prohibition against yarding or skidding across the watercourse; and limitation of tractors to existing, preidentified skid trails. Any departure must be supported by current, reach-specific evidence rather than general reliance on the Forest Practice Rules.

(h) Produce the as-built records for Kestrel's proposed Trees 64–67 large-wood sites and the effectiveness inspection and report required after at least one winter. Identify any completed placement affected by Card and prohibit its disturbance unless CAL FIRE and CDFW determine, on current evidence, that an alternative provides equal or greater habitat function. If the required report cannot be located, require a current field inspection and effectiveness assessment before approval.

C. Cumulative Impacts

Record. Section IV characterizes past projects through a ten-year history of approved harvest documents. Its tables list Dogwood (1-15-042-SON) and Apple (1-15-033-SON) by approved acreage. CAL FIRE's own completion records report final completion of Apple on October 11, 2019 and Dogwood on October 19, 2021. Dogwood lies across the South Fork from Card along roughly one-half mile of river. The July 2026 recirculated Section IV adds Little Pepperwood, Noce, and Herman by name, acreage, and map.[16]

The Rules define past projects as those that "generally include, but may not be limited to," projects completed within ten years.[17] On September 9, 2026, a CAL FIRE Northern Region review-team chair applied the same reading in rescinding a recommendation of approval for THP 2-26-00059-PLU (Item 19), and in Item 18 required analysis of an earlier plan's operations where its records were available through CalTREES and CAL FIRE's GIS portal. Section 898 directs the Director to supplement the RPF's information where necessary so that all relevant information is considered.

Proposed conditions.

(a) Analyze the operations actually implemented under Dogwood and Apple (units, roads, crossings, and recovery since completion), using CAL FIRE's completion records, rather than listing approved acreage.

(b) Evaluate past projects whose effects continue regardless of age, including Kestrel and the hillslope clearcuts under 1-01-392-SON (harvested 2002–2005; completed 2007).

(c) Analyze the combined effects of Card with Little Pepperwood, Noce, and Herman, rather than listing them.

(d) Explain the choice of a biological assessment area extending 0.7 mile beyond the watershed areas, where the adjacent Dogwood plan used a 1.3-mile perimeter that captured northern spotted owl activity center SON0045.

D. Water Quality in a 303(d)-Listed Watershed

Record. Section IV acknowledges the Gualala River's Clean Water Act section 303(d) listing for sediment, temperature, and aluminum, states that past damage continues to contribute sediment and that its significance is difficult to quantify, and finds no significant cumulative effect.[18] The Erosion Control Plan identifies approximately 50 cubic yards of road fill lost within the South Fork WLPZ at Map Point B, approximately 40 cubic yards at risk at Map

[16] THP, pp. 140.1 – 140.8.

[17] Forest Practice Rules, § 895.1.

[18] THP. Recirculated Section 4, pp. 135-150.

Point 20, and a failed 36-inch culvert at Map Point 33 where 5 cubic yards have eroded and another 40 are at risk; the Plan proposes to replace that culvert with another 36-inch culvert.[19]

CAL FIRE may point to generalized monitoring of WLPZ performance, as it did in the Kestrel Official Response. That evidence does not resolve the conditions documented for Card: operations in a sensitive floodplain, existing road-fill and culvert failures, Class I crossings with unresolved methods and protections, and a watershed listed for sediment and temperature. Kestrel's own response treated these issues through plan-specific measures, agency field review, a winter-period prohibition, and watercourse protections CAL FIRE found exceeded the Rules. Card requires the same site-specific connection between the identified conditions, the proposed operations, and enforceable measures.

NMFS's Kestrel analysis also explains why Card cannot rely on the general proposition that floodplains are depositional environments. NMFS stated that floodplains generally function as depositional features only if their primary characteristics—including the litter layer, dense canopy, and uncompacted soils—are not degraded. It identified tractor use and log yarding on floodplain skid trails as activities capable of compacting soils, disturbing the forest floor, diverting high flows, and increasing sediment delivery. Card should therefore evaluate how its proposed group openings, equipment use, skid trails, crossings, and winter-period operations would affect those specific floodplain functions.

Card proposes harvest inside the WLPZ on the South Fork floodplain, where it identifies single-tree selection.[20] Section 916.4(a)(1) requires a field evaluation of sensitive conditions near watercourses, including overflow channels, flood-prone areas, and impaired riparian zones; it requires the RPF to consider the measures needed to maintain and, to the extent feasible, restore riparian functions when proposing WLPZ widths and protection measures.[21] Section III merely asserts that an evaluation occurred and refers generally to Section IV; it does not disclose the evaluation or show how its findings informed Card's WLPZ widths and protective measures The Plan must identify conditions that may interact with operations and significantly and adversely affect beneficial uses, and describe protective and feasible restorative measures.[22] Subdivision (a)(2) also requires the Plan to describe opportunities for habitat restoration for each Class I watercourse; subdivision (b) identifies the functions the Rules, Plan, and mitigation together must protect, including temperature, large wood, bank and channel stability, and salmonid spawning and rearing habitat. Section 916.2(c) calls for additional plan measures when the standard protections are inadequate.[23]

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[19] THP, Section V, pp. 308-316.3.

[20] THP, Section II, Item 14, p. 14.

[21] Forest Practice Rules, § 916.4, subds. (a)(1)–(4), (b) (2026).

[22] Forest Practice Rules, § 916.2, subds. (a), (c) (2026).

[23] In describing existing inadequacies and proposes additional conditions, FoGR challenges Card's site-specific application and evidentiary support, not the facial validity of the Forest Practice Rules and other general standards.

Proposed conditions.

(a) Provide the analysis section 898 requires of how Card's operations, including the crossings, canopy changes, and identified sediment sources, may combine with the listed stressors to impair beneficial uses, with feasible mitigation.

(b) Stabilize the sediment sources at Map Points B, 20, and 33 before the associated road or crossing is used for timber operations and, where feasible, before the next winter period. Provide an agency-reviewed schedule for any treatment that cannot safely be completed before winter. Document that the Map Point 33 replacement culvert is sized for the applicable design flood and associated debris under section 923.9(f), or explain any approved alternative. [24]

(c) Reconcile any finding of continuing significant adverse impacts from past land use with the conclusion that Card will not contribute to a significant cumulative effect.

(d) Place the Regional Water Board's input on these issues in the record.

(b) Obtain and evaluate the existing monitoring information identified in the NMFS Technical Assistance Letter for the South Fork study reach within the Kestrel area, to the extent that information is reasonably available. The record should include the most recent available temperature, large-wood, substrate, channel-profile, canopy, snorkel-survey, and macroinvertebrate information and explain whether those data support Card's conclusions concerning existing conditions, recovery since Kestrel, and the effects of the proposed operations. If the information cannot be obtained, identify the efforts made and explain what current field data CAL FIRE relies upon instead.

(e) Disclose the results of the field evaluation referenced in Section III and identify, describe, and map the overflow channels, flood-prone areas, impaired riparian areas, sediment-delivery pathways, and other sensitive conditions observed during that evaluation. For each affected Class I watercourse, identify feasible measures to restore or enhance the functions described in 14 CCR section 916.4, subdivision (b), or explain with site-specific evidence why no such measures are warranted.

E. Listed Species Information and Enforceability

(a) Unresolved Swamp Harebell Records. The record contains materially inconsistent information concerning swamp harebell, identified in the Kestrel documents as *Campanula californica* and in Card as *Eastwoodiella californica*. CDFG's December 21, 2011 Kestrel pre-harvest inspection report states that the rare-plant survey confirmed that previously detected populations persisted at nine locations and that those populations were reflagged in the field for protection. CDFG also recommended that the locations be submitted

[24] Forest Practice Rules, § 923.9, subd. (f).

to the California Natural Diversity Database.[25] The Kestrel response subsequently stated that the known sites had been reflagged, that site records had been submitted, and that two sites adjoining the existing haul road were separately flagged for protection.[26]

Card's 2026 botanical survey, however, reportedly states that swamp harebell was not detected.[27] At the same time, Card's recirculated Section IV states that past surveys within the project area identified swamp harebell as present and that the species "has been flagged with special treatment and is an EEZ."[28] Card does not reconcile the reported nondetection with either the nine Kestrel occurrences or its own statement that a protected occurrence remains flagged within Card. Nor does it disclose whether the 2011 locations were searched, whether they overlap Card's harvest units or transportation system, whether the former flags and exclusion zones remain identifiable, or whether differences in survey timing, coverage, methodology, or nomenclature account for the conflicting results.

A current nondetection, standing alone, does not establish that the previously documented populations are absent or that their habitat may be disturbed. Before deciding whether Card adequately protects botanical resources, the Director should investigate and resolve this discrepancy using the underlying location and survey records rather than accepting the most recent internally inconsistent statements without reconciliation.

Accordingly, Cal Fire should require the RPF, before the Director's decision, to: (1) obtain the Kestrel rare-plant map, CNDDB submissions, field notes, and available coordinates for the nine swamp harebell occurrences documented in 2011; (2) map those locations against Card's harvest units, group openings, roads, landings, skid trails, crossings, and other ground-disturbing operations; (3) disclose the dates, personnel, methods, coverage, phenological conditions, and findings of the 2026 survey that reportedly resulted in nondetection; and (4) explain how that result can be reconciled with Card's statement that swamp harebell is present, specially treated, and protected by an EEZ. If the prior locations cannot be reliably relocated or the conflicting records otherwise cannot be resolved, require a seasonally appropriate survey by a qualified botanist, in consultation with CDFW, before approval. Any confirmed or conservatively presumed occurrence shall be mapped, visibly flagged, and protected by an enforceable equipment-exclusion zone adequate to prevent direct and indirect disturbance.

(b) Reconcile the number of northern spotted owl activity centers within 0.7 mile (three in Item 32(a); two in Section IV) and the centers named in the noise discussion.[29] CAL FIRE's Kestrel response relied on the applicable northern spotted owl rule, then-current federal

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[25] *See* CDFW, PHI Report for Kestrel THP, dated Dec. 21, 2011, p. 11.

[26] *See* RPF Response to CDFW for Kestrel THP, dated July 16, 2012, p. 3.

[27] *See* Card THP, Section V, pp. 322, 340-341.

[28] *See id.*, Section IV, p. 234.

[29] *Compare* THP, Section II, p. 70 *with* Section IV, p. 204.

information, and Kestrel's selection-or-no-harvest prescription.[30] Card's record presents different and more specific questions. CAL FIRE should reconcile the conflicting activity-center counts, explain the boundary selected for the biological assessment area in light of the adjacent Dogwood assessment, and identify the mandatory measures on which any no-take and cumulative-impact conclusions depend. A general statement of rule compliance would not resolve those record inconsistencies.

(b) Replace permissive terms in relied-upon protective measures ("should," "will attempt," "may be moved") with mandatory, site-specific instructions or explain why discretion is necessary and bounded by a verifiable standard. Evaluate the 2018 Plum THP murrelet consultation attached to FoGR's prior comments and incorporate measures relevant to Card's actual habitat and operations, or explain with site-specific evidence why they do not apply; do not treat Plum's terms as automatically applicable to Card.

(c) Correct the listing status of Central California Coast coho salmon, which the Plan describes as threatened.[31]

F. CAL FIRE Must Address the Absence of Comparable Site-Specific Agency Review

The Kestrel record confirms that CAL FIRE's prior approval was informed by site-specific review from NOAA/NMFS, CDFG, the Regional Water Board, CGS, and CAL FIRE, and by protections developed through that review. The attached NMFS Technical Assistance Letter supplies direct evidence of the nature and significance of that review. NMFS based its analysis on information provided during a July 1, 2011 meeting, a July 19 site visit, an August 5 conference call, subsequently supplied project information, NMFS's administrative record concerning the Forest Practice Rules, and the draft Central California Coast coho salmon recovery plan. NMFS stated that the purpose of its assistance was to minimize and mitigate impacts on listed salmonids and reduce the magnitude and probability of take. Its review separately analyzed potential effects on watershed hydrology, large-wood recruitment, stream temperature, and sediment delivery and identified the Kestrel measures that would reduce those risks.[32]

The attached NMFS letter demonstrates what site-specific technical review meant in Kestrel. NMFS participated in meetings and a field inspection, distinguished tributaries according to their actual channel and floodplain functions, identified habitat that likely provided winter refugia, evaluated hydrologic, temperature, sediment, and large-wood effects, and connected particular protective measures to reductions in the probability and magnitude of take. NMFS nevertheless cautioned that its assistance neither authorized nor exempted take. Card's record does not disclose a comparable evaluation of the overlapping floodplain

[30] Kestrel Official Response, pp. 4-5.

[31] *See id.*, Section II, p. 80.

[32] National Marine Fisheries Service, Technical Assistance for Proposed Kestrel THP (Sept. 13, 2011), pp. 1–9, Kestrel THP stamped pp. 188.3–188.11 (Exhibit [X]) ("NMFS Technical Assistance Letter").

and tributary conditions. CAL FIRE should identify the qualified fisheries and floodplain expertise applied to Card, disclose the resulting analysis and recommendations, and explain with current site-specific evidence why Card may omit or modify protections that NMFS found important at the same location.

For the twelve low-gradient Class II-S watercourses within Kestrel, NMFS found that the Forest Practice Rules provided no core zone and did not adequately protect bank stability, sediment control, large-wood recruitment, and other important salmonid functions. Through the site visit, NMFS and GRI distinguished incised from non-incised tributaries. NMFS found that the incised tributaries became backwatered by the South Fork during frequent flow events and likely provided important winter refugia for listed salmonids. Those site-specific observations supported additional no-harvest, canopy-retention, bank-stability, equipment, and skid-trail measures beyond the generally applicable rules.

Card should disclose whether the overlapping tributaries retain those physical and habitat characteristics and, if so, either retain the corresponding protections or support any substitute with current site-specific evidence. Card's record should also identify the comparable fisheries, riparian, and floodplain expertise applied to the proposed operations, the information reviewed, the recommendations made, and how Card responds to those recommendations. If no comparable review occurred, CAL FIRE should explain how its own review supplied equivalent technical analysis and why Card may omit or modify Kestrel's plan-specific protections.

CAL FIRE should therefore identify:

(1) whether NMFS, CDFW, NOAA, or another appropriately qualified agency or specialist reviewed Card's proposed operations in the areas overlapping Kestrel;

(2) the information, site conditions, and potential impacts considered in that review;

(3) any recommendations made and how Card incorporates or responds to them; and

(4) whether the review considered the continuing applicability of Kestrel's plan-specific protections.

If no comparable review occurred, CAL FIRE should disclose that fact and explain, with substantial evidence, how the Card review supplied equivalent technical expertise and why operations may proceed without equivalent protective measures.

The record must demonstrate that the sensitive floodplain operations received an equivalent level of informed, site-specific technical evaluation, including opportunities for inter-agency review. Without that showing, Card's departure from the protections developed through the Kestrel review constitutes a significant analytical gap.

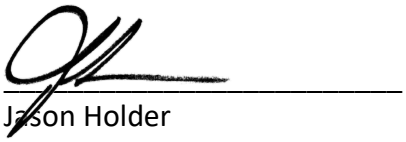
III. Reservation

FoGR submits this letter to assist the Director's review and to encourage a Plan that can be approved with protections commensurate with the resources at stake. Nothing in this letter waives, withdraws, or limits any comment or objection FoGR has submitted, or any right or remedy available to FoGR.

* * *

Thank you for your consideration. Please contact me at the email or phone number listed in the caption above with any questions or to arrange a technical meeting.

Very Truly Yours,



Jason Holder
Counsel for Friends of Gualala River

cc: (via email only)
Client Contacts
Kristin Garrison, CDFW Environmental Scientist (Kristin.Garrison@wildlife.ca.gov)
Julie Lile, CDFW Senior Environmental Scientist Supervisory (Julie.Lile@wildlife.ca.gov)
Jim Burke, NCRWQCB Senior Engineering Geologist (James.Burke@waterboards.ca.gov)

Enclosure(s):
Exhibit A: National Marine Fisheries Service technical-assistance letter to Gualala Redwood Inc., dated September 13, 2011

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
777 Sonoma Ave., Room 325
Santa Rosa, CA 95404-4731

September 13, 2011

In response, refer to:
151416SWR2011SR00435

Henry Alden
Gualala Redwood Inc.
39951 Old Stage Road
P.O. Box 197
Gualala, California 95445-0197

Dear Mr. Alden:

Thank you for your request for Technical Assistance from NOAA's National Marine Fisheries Service (NMFS) for your proposed Kestrel's timber harvest plan (THP). You have communicated to us that Gualala Redwoods Inc. (GRI) wishes to harvest redwood trees along the South Fork Gualala River in a manner that will not significantly adversely affect listed anadromous salmonids. The following listed species (Distinct Population Segment [DPS]) may be affected by the proposed Kestrel's THP:

Northern California (NC) steelhead (*Oncorhynchus mykiss)*
Threatened (71 FR 834; January 5, 2006)
Critical Habitat (70 FR 52488; September 2, 2005); and

Central California Coast (CCC) coho salmon (*O. kisutch)*
Endangered (70 FR 37160; June 28, 2005)
Critical Habitat (64 FR 24049; May 5, 1999).

The purpose of this letter is to provide technical assistance for the proposed Kestrel's THP that will minimize and mitigate impacts of the proposed project on these listed salmonid species and reduce the magnitude and probability of "take" of these species. NMFS' technical assistance regarding this project is based on: (1) our review of information supplied by GRI during a meeting on July 1, 2011; (2) a site visit by NMFS staff to the proposed Kestrel's THP on July 19, 2011; (3) a conference call between NMFS and GRI on August 5, 2011; (4) information that has been supplied by GRI since then; (5) NMFS' administrative record regarding the California Forest Practice Rules (ARN 151416SWR2010SR00347); and 6) the NMFS' public draft CCC coho salmon Recovery Plan

188.3

Harvest Prescriptions under the Proposed Kestrel's THP

The proposed Kestrel's THP is located on the western floodplain of the South Fork Gualala River (SFGR), a Class I fish-bearing stream as defined by the California Forest Practice Rules (CFPRs). The project area encompasses approximately 100 acres along 3.6 miles of the SFGR. The Kestrel's THP proposes to harvest redwood trees from the floodplain of the SFGR. Within the project area, there are 13 Class II tributaries and nine Class III tributaries; almost all of the lengths of these tributaries are within the Watercourse and Lake Protection Zone (WLPZ) of the Class I SFGR. Timber operations associated with the Kestrel's THP will not occur in the winter period or during time periods when saturated soil conditions exist.

Beyond CFPR compliance, GRI proposes the following additional measures as part of the proposed Kestrel's THP for purposes of protecting federally listed salmonid species:

1.) a 70-feet (ft) no harvest buffer (Core Zone) as measured from the Watercourse Transition Line (WTL), as defined in the CFPRs [*the FPRs call for a 30-ft no harvest buffer*];

2.) a 120-ft buffer (Inner Zone A) measured from the landward edge of the Core Zone [*the CFPRs require a minimum width of 70 ft]* which will retain post-harvest:

   a. 80 percent overstory conifer canopy cover,
   b. the 13 largest trees per acre, and
   c. increase the quadratic mean diameter (QMD);

3.) 250 ft^2 of conifer basal area shall be retained from the top of bank along the SFGR extending 75 ft landward [*the CFPRs require 125 ft^2*]; and

4.) 175 ft^2 of conifer basal area will be retained from 75 ft landward of the SFGR for 75 ft to 150 ft [*the CFPRs require 125 ft^2*].

Consistent with the CFPRs, where Inner Zone A does not encompass the entire floodplain, an additional buffer (Inner Zone B) will extend from the landward edge of Inner Zone A to the end of the flood prone area. Inner Zone B will receive the following post-harvest levels:

   a. 50 percent overstory conifer canopy cover;
   b. retain the 13 largest trees per acre;
   c. retain 125 ft^2 of conifer basal area; and
   d. increase QMD.

The proposed Kestrel's THP has 13 Class II tributaries to the SFGR. There is one Class II large (L) and 12 Class II standards (S). In addition to the CFPRs, GRI proposes to include the following protection measures for the Class II L:

1.) a 30-ft no harvest Core Zone as measured from the WTL, as defined in the CFPRs; and

2.) a 70-ft Inner Zone buffer measured from the landward edge of the Core Zone will receive post-harvest levels of:

   a. 80 percent overstory conifer canopy cover;
   b. retain the 13 largest trees per acre; and
   c. increase QMD.

GRI has identified 12 Class IIS streams within the proposed Kestrel's THP. All 12 of the Class IIS are in the 0 percent - 10 percent slope class per the CFPRs, therefore, the CFPRs do not have a Core Zone which would protect bank stability, reduce sediment discharge, and promote Large Woody Debris (LWD) recruitment. During the July site visit, NMFS staff discussed with GRI our finding that the CFPRs do not adequately protect the important functions of Class IIS watercourses in the proposed Kestrel's THP. As described below, NMFS and GRI staff noted that some Class IIS tributaries provided special habitat values for listed salmonids. Therefore, NMFS and GRI staff classified the Class IIS into two categories: 1) incised and 2) non-incised.

The incised Class IISs are defined as watercourses that are seasonal but have a cross section which has steep banks before leveling off into the floodplain. GRI has identified eight incised Class IIS watercourses. The thalwegs of these incised Class IISs are significantly lower in elevation than the surrounding floodplain. During frequent flow events, these incised Class IISs become backwatered by the SFGR. These backwater events often occur before and/or without the floodplain being inundated. The backwatered incised Class IIS streams likely provide important winter refugia for listed salmonids. The redwood trees that grow along these steep banks appear to play an important role in maintaining the integrity (*i.e.*, stability) of the stream banks. The habitat value of these incised Class IISs would be enhanced over time if large trees along the bank were retained. Therefore, maintaining the integrity of the stream banks and ensuring an adequate source of large woody debris in these small streams will provide cover and shelter during the winter, habitats critical for the survival and recovery of listed salmonids. In the proposed Kestrel's THP, there are eight incised Class IIS streams that if managed pursuant to the existing CFPRs would not be adequately protected. The CFPRs allow for the harvest of trees that will 1) potentially fall into Class IIS watercourses, and 2) provide cover and trees that clearly promote bank stability. In an effort to minimize the take of listed salmonids to the maximum extent practicable, GRI proposes the following measures for incised Class IISs:

1.) a 15-ft no harvest Core Zone as measured from the WTL [*the CFPRs have a 0 ft Core Zone for such streams*];

2.) where the watercourse flows through the SFGR Inner Zone B, a 35-ft Inner Zone measured from the landward edge of the Core Zone will receive post-harvest levels of 70 percent overstory conifer canopy cover [*the CFPRs require a 50-percent canopy cover in Inner Zone B*];

3.) no yarding or skidding logs across these Class IIS watercourses [*the CFPRs would otherwise authorize this*]; and

4.) tractor use will be limited to existing skid trails that maximize skidding opportunities, which minimize adverse effects (*e.g.*, compaction of floodplain soils, divert high flows onto roads, *etc.*) [*the CFPRs only require that existing skid trails be used*].

GRI has identified four non-incised Class IIS watercourses. These are seasonal streams in which the banks are not well defined and the thalweg are not low enough in elevation for the SFGR to backwater into them during storm events. Non-incised Class IISs convey water and fine sediment directly to the SFGR and the Class IIS incised watercourses during storm events. Therefore, in addition to the protections under the CFPRs, the proposed Kestrel's THP will have the following measures to minimize potential sediment delivery for non-incised Class IIS watercourses:

1.) retain all trees in the channel zone and outward to the bank full line and/or trees which show visible indicators of providing bank or bed stability below the bank full line. Visible indicators of stability include roots that permeate the bank or provide channel grade control [*the CFPRs do not prohibit the removal of trees that provide these functions*];

2.) a 50-ft WLPZ measured from the WTL will retain 50 percent overstory conifer canopy coverage post-harvest;

3.) no yarding or skidding logs across non-incised Class IIS watercourses [*the CFPRs would otherwise authorize this*]; and

4.) tractor use will be limited to existing skid trails that maximize skidding opportunities while minimizing adverse effects (*e.g., reduce* compaction of floodplain soils, divert high flows onto roads, *etc.*) [*not required by the CFPRs*].

The proposed Kestrel's THP has 9 Class III tributaries to the SFGR, which will receive the standard mitigation measures under the CFPRs. Although NMFS has concerns regarding the CFPRs standard measures for Class III streams, for the Kestrel Project we are much less concerned because the Class III tributaries are almost completely within the WLPZ of the Class I SFGR, and, therefore, they receive additional protections due to their proximity to the SFGR.

Kestrel's THP Measures to Mitigate Impacts to Listed Salmon and Steelhead

In addition to adopting harvest prescriptions that are more protective than the CFPRs, the Kestrel's THP proposes to do the following to promote the survival and recovery of listed salmonids. There will be four LWD projects located along the SFGR. The purpose of these projects is to increase salmonid habitat in the SFGR by creating habitat complexity in the channel zone that would promote the growth of gravel bars and increase river sinuosity. Increasing river sinuosity will further enhance riffle pool sequences, recruit additional riparian trees through bank scour, and capture trees that fall along upstream reaches but are then

transported downstream. In addition to forming needed pools, LWD provides essential cover for migrating adults and rearing salmonids. This effort is consistent with specific recovery actions for the Gualala River identified in the NMFS' public draft CCC coho salmon Recovery Plan (*i.e.*, Recovery Actions 6.1.1.1, 6.1.1.2, 6.1.1.3, and 6.1.2.1). Four trees have been selected within the Core Zone along the SFGR, which will be felled onto the gravel bars. The following criteria were used by GRI to identify candidate trees for the four LWD projects:

1.) the trees are safe to fall,
2.) the trees are second growth redwood,
3.) the trees that are larger than 30" diameter at breast height,
4.) the selected trees are part of a group (*e.g.*, redwood fairy ring) to minimize the impact on shade canopy,
5.) the ability to fall the trees with a minimum of breakage, and
6.) the trees can be felled in a way that they might wedge between existing trees or stumps and be more likely to stay in place and continue to function as stream habitat structure.

Depending upon the availability of additional cull logs or root wads on the property and the practicality of using heavy equipment within the WLPZ and channel zone of the SFGR, these four LWD projects may include placement of additional logs. If monitoring shows these four LWD projects are not functioning as anticipated (*e.g.*, they are blow out by high flows, are not increasing bar height, or are not capturing trees that are being transported by the river), the site will be adaptively managed to place additional logs in the SFGR or in an appropriate tributary to the SFGR.

NMFS encourages the placement of additional LWD for purposes of promoting complex habitats needed by salmonids. The incorporation of LWD has received much attention in stream restorations to foster recovery of salmonid and trout species, and its importance for bank stabilization and habitat has been realized. However, the specific design of these projects should carefully consider the risks to downstream infrastructure, primarily the Highway 1 bridge across the Gualala River.

The proposed Kestrel's THP also includes storm-proofing and decommissioning 0.96 miles of road that run parallel to the SFGR and the Gualala River north of the Kestrel's THP. The road upgrades include decommissioning two watercourse crossings and storm-proofing five watercourse crossings. The remaining sections of road will be hydrologically disconnected according to methods described in Weaver and Hagans (1994). The additional road improvements are located outside the harvest area and are not proposed to be used for timber operations. The CFPRs only require road improvements on roads that are proposed to be used as part of the THP. Therefore, upgrading this road is a beneficial action that would not otherwise have been required by the CFPRs. GRI expects these road improvements will reduce approximately 495 cubic yard of future sediment delivery to the SFGR and Gualala River.

Potential Effects of the Kestrel's THP to Listed Salmonids

NMFS' administrative record regarding the CFPR's indicates many of the specific rules do not adequately protect listed salmonids. A review of this administrative record as well as other

reports noting the effects of timber harvest (*i.e.*, Hicks *et al.* 1991; Ligon *et al.* 1999; Liquori *et al.* 2008) show the primary potential adverse effects of timber harvest on listed anadromous salmonids stem from alterations in watershed hydrology, LWD recruitment to the stream, increases in stream temperature, and elevated sediment load. The following sections consider the potential effects of the Kestrel's THP on key environmental factors known to be both affected by timber operations and relevant to sustaining good quality habitats for steelhead and salmon.

Hydrology

The hydrology of a watershed is controlled by many complex interacting factors. Increases in runoff and peak flows can result from soil compaction along skid trails, harvesting activity, and road construction (either from individual harvesting activities or from the combined effects of multiple operations in drainages that are temporally or spatially related). Such increases in runoff and peak flows can potentially result in incidental take of listed salmonid species.

The effects of temporary changes in watershed hydrology on these species and their habitats are difficult to assess. However, a harvesting-related increase in peak flow could increase the frequency of storm events that mobilize channel substrates, thereby damaging developing eggs and alevins in redds. Increased peak flows can also affect the survival of over-wintering juvenile salmonids by displacing them from their preferred habitats. Displacement of juveniles can result in take if the displacement results in killing or injuring individuals.

The extent to which watershed hydrology could be altered by the Kestrel's THP is a function of the amount and timing of the timber harvest in conjunction with timber harvest activities elsewhere in the watershed. The potential impacts of altered hydrology due to timber harvest are highly complex and the severity of the impact depends on watershed size, form of precipitation, season, flood magnitude (Zeimer and Lisle 1998), density of hydrologically connected roads (Coe 2006) and silvicultural practice (Zeimer 1998). Literature describing the hydrologic effects of forest management has focused on clear-cut harvesting (Zeimer 1998; Lisle *et al.* 2008; Lisle *et al.* 2009). Zeimer (1998) reported a 9 percent increase in 2-year peak flows following clear-cutting approximately 50 percent of the North Fork Caspar Creek watershed (5 km^2), located in western Mendocino County near Fort Bragg, California. Lisle *et al.* (2008) reported that clear-cutting in Caspar Creek watershed has increased the drainage network by as much as 28 percent. The Kestrel's THP does not propose clear-cutting. However, management altered hydrology ultimately results from timber harvest activities that remove or reduce the canopy cover in the forest. Changes in hydrology have the potential to cause take that could lead to local declines in populations of salmon and steelhead, although the actual impact of various levels of altered hydrology remain unknown. The Kestrel's THP would contain measures, several more protective than the CFPRs, to minimize the potential for this project to alter hydrology (*e.g.*, implementing over story conifer canopy requirements, avoiding winter operations, minimizing use of existing skid trails, avoiding skidding or yarding logs across watercourses, and treating skid trails). Including these minimization measures will reduce the likelihood or magnitude of take of listed salmonids.

LWD Recruitment

Timber harvesting can reduce short term and long-term recruitment of LWD. Long-term reductions in LWD recruitment can result in lower stream complexity and reduce the amount of high quality rearing habitat for salmonids and other fish species. LWD in a watercourse promotes sediment storage and sorting that benefits listed salmonids. A decline in pool density, pool depth, in-stream cover, and gravel retention are likely to result from LWD losses. Thus, harvesting practices that result in low levels of LWD recruitment to streams may impact the growth, survival, and total production of listed salmonids.

Over the long term, much of the LWD that creates and maintains aquatic habitat elements is likely derived from significant geologic events such as major floods, avulsion, and landslides. However, LWD is also recruited when individual trees fall into the stream channel from adjacent forest stands. Therefore, harvesting trees from a floodplain or along a stream may result in a failure to allow short-term and long-term natural recruitment of wood for future habitat and thus may negatively affect listed salmonids. Such habitat alterations may constitute significant habitat modification or degradation. The Kestrel's THP would contain measures to minimize the potential for short term or long term reductions in LWD recruitment (*e.g.*, in-stream deposit of LWD, retention of the 13 largest trees per acre, implementing a 70-ft no-cut buffer, and increased basal area retention in the WLPZ). The implementation of these measures will reduce the probability and magnitude of take of listed salmonids due to reduced recruitment of LWD.

Altered Stream Temperatures

Timber harvest in riparian areas is known to increase solar radiation on streams with resulting increases in daytime summer water temperatures, and it can potentially reduce nighttime and winter stream temperatures. Such increases in water temperatures during summer can negatively affect salmonids (Beschta *et al.* 1987) and other species. Potential impacts to salmonid species due to elevated temperatures include a reduction in growth efficiency, increases in disease susceptibility, change in age of smoltification, loss of rearing habitat, and shifts in the competitive advantage of non-salmonid species (Hughes and Davis 1986; Reeves *et al.* 1987; Spence *et al.* 1996). Much less is known of the potential impacts of colder nighttime and winter temperatures on streams with reduced canopy and aggraded channels. However, given the moderating climate along the coast of central California, it is unlikely that there will be appreciably colder water temperatures due to the proposed timber harvesting with resultant adverse effects to salmonids.

Stream temperatures increase as a result of heat being delivered to the stream. The rate at which heat is delivered to the stream system is generally dictated by external drivers which form the physical setting of the stream. These drivers include solar radiation, topographic and vegetative shade, air temperature, groundwater temperature and stream discharge (Sullivan *et al.* 1990; Poole and Berman 2001). Generally, timber harvests on floodplains most heavily influence vegetative shade relative to the other variables that affect stream temperature. Riparian vegetation moderates stream temperatures by providing canopy that shades the water and reduces the amount of insolation (*i.e.*, direct solar radiation) that reaches the water surface (Beschta

1991). Riparian vegetation also minimizes the temperature differential between the air and the water by creating a cool and moist microclimate near the water surface.

The impact of elevated water temperature tends to be cumulative on a temporal scale, such that short-term increases are less likely to be harmful compared to more prolonged increases in water temperature. The life stages most vulnerable to elevated water temperatures are juvenile coho salmon and steelhead during summer and early fall.

The Kestrel's THP will occur relatively low within the Gualala River watershed. The influence of riparian vegetation on radiation inputs generally diminishes in a downstream direction (Spence *et al.* 1996). As streams become larger and wider, riparian vegetation shades a progressively smaller proportion of the water surface (Beschta *et al.* 1987; Gregory *et al.* 1991). The influence of heat energy transfer is also diminished as stream flows increase (Beschta *et al.* 1987). Because of where the Kestrel's THP is positioned within the watershed, the proposed project has measures to minimize increases in stream temperatures due to reduced vegetative shade (*i.e.*, a 70-ft no cut buffer and canopy extending over 150 ft from the SFGR). These measures will reduce the probability of take listed salmonids due to increases in stream water temperature.

In addition, hyporheic flow (*i.e.*, groundwater or water flowing subsurface through gravel bars), which affects stream temperature, is also influenced by increases in sediment loading and decreases in large woody debris (LWD). The Kestrel's THP proposes to implement four LWD projects within the SFGR. As stated above, the purpose of these projects is to enhance salmonid habitat in the SFGR by creating habitat complexity in the channel zone that would promote the growth of gravel bars and, therefore, increase river sinuosity. Promoting these features may enhance hyporheic flow through pools and may thus reduce stream temperature.

Sediment Inputs

The Kestrel's THP includes measures for riparian management, road management, and skid trails, all of which will minimize stream sedimentation. The riparian management measures are designed to reduce potential harvest related sediment inputs into the stream network through tree retention within WLPZs. Timber operations associated with the Kestrel's THP will not occur in the winter period, nor during periods when saturated soil conditions exist, thereby reducing the potential for sediment discharge to the SFGR. The Kestrel's THP is located on the floodplain of the SFGR. Floodplains are generally features along a river where sediment is deposited rather than transported (Montgomery and Buffington 1993), provided that the primary features of the floodplain are not degraded (*e.g.*, thick leaf litter layer, dense canopy cover, and uncompacted soils). Tractor use and yarding logs along skid trails on the floodplain may degrade some of these features by compacting soils and disturbing the forest floor. However, minimization measures such as limiting tractor use, the yarding of logs using existing skid trails and avoid skidding and yarding across watercourses will reduce the potential for high flows to be diverted onto roads and sedimentation in streams that may adversely affect salmonids.

Sediment inputs will most likely be associated with the upgrade of the 0.96 miles of road located downstream of the timber harvest area. Once the upgrade is completed, and following the first

rain event, NMFS expects there will be a short-term elevated increase in sediment yield to the SFGR. Increased sediment inputs can reduce the quality of aquatic habitats for listed salmonids by reducing depth of pools and by increasing embeddedness of gravel and cobble substrates. Listed salmonids may also be affected by short-term increases in turbidity. For example, gill irritation and the inability to locate and capture prey is common for salmonids in turbid waters. However, these potential effects are likely temporary until this road settles following reconstruction. Over the long-term, the techniques used to upgrade this road (*e.g.*, outsloping, storm-proofing, rocking, decommissioning, culvert replacement) are expected to stabilize and drain the road in a manner that reduces the chronic sediment delivery associated with this road. Therefore, take of listed salmonids may result from efforts to reduce chronic sedimentation from the road network; however, the benefits of upgrading this road are likely to outweigh the temporary adverse effects to listed species.

Please be advised this letter does not authorize "take" nor does it exempt "take." Incorporating the above recommendations in the Kestrel's THP will reduce the probability and magnitude of take of listed salmonids that would otherwise occur with strict implementation of the CFPRs. Should GRI decide to develop an HCP for the proposed Kestrel's THP, NMFS is willing to work with GRI to develop a Section 10(a)(1)(b) permit in an efficient manner. More information regarding HCPs can be found in the Habitat Conservation Planning and Incidental Take Permit Processing Handbook located on the NMFS' webpage (http://www.nmfs.noaa.gov/pr/pdfs /laws/hcp_handbook.pdf).

If you decide to pursue an HCP for the Kestrel's THP and apply for a Section 10(a)(1)(b) permit, the issuance criteria for the permit requires the HCP to include a monitoring program, funding assurances and biologic goals and objectives. You will also need to include an entire list of activities that you wish to have incidental take authorization for (*i.e.*, Covered Activities). NMFS is aware of the existing monitoring program that GRI and the Gualala River Watershed Council (GRWC) implements throughout the watershed. A study reach for the watershed monitoring program is located within the proposed Kestrel's THP area along the SFGR. This reach has been monitored for a number of years (*i.e.*, since 1994). Variables that GRI and GRWC monitor in this reach include temperature, LWD abundance, substrate size, longitudinal channel profiles, canopy cover over the SFGR and WLPZ, snorkel surveys, and macroinvertebrate monitoring. Any monitoring program for an HCP requires compliance and effectiveness monitoring. Given the known adverse effects of timber harvest on listed salmonids, we believe the habitat metrics GRI and GRWC monitor are generally what NMFS would expect to monitor to satisfy the issuance criteria. Some additional monitoring would be required to ensure the HCP was implemented correctly. We are willing to work with you on an appropriate monitoring program that would be commensurate with the level of activity that would occur with the proposed Kestrel's THP. In addition, adequate funding would need to be in place to ensure the mitigation and monitoring could be implemented. This would require a cost estimate for the road work, LWD projects and the effectiveness and compliance monitoring. There are a number of options available to GRI for satisfying that requirement. We are willing to work with you to select a viable option for meeting this requirement. Lastly, the Final Addendum to the Handbook for Habitat Conservation Planning and Incidental Take Permitting (65 FR 35242; June 1, 2000) requires that HCPs include biological goals and objectives that will guide the development of the HCP and provide the rationale for mitigation strategies. During the

July site visit, NMFS and GRI staff discussed biological goals and objectives as they would pertain to the proposed Kestrel's THP. Should you decide to pursue an HCP, biological goals and objectives would need to be articulated in the document. In addition to this technical assistance we have provided, please also refer to our public draft CCC coho salmon Recovery Plan to assist you in identifying these biological goals and objectives.

Thank you again for the opportunity to comment on the proposed Kestrel's THP. Please contact Mr. Dan Wilson at (707)-578-8555, or via email at dan.wilson@noaa.gov should you have any questions concerning this letter.

Sincerely,

Dick Butler
North Central Coast Office Supervisor
Protected Resources Division

cc: W. Snyder, Calfire
C. Yates, NMFS, Long Beach

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