



California Regional Water Quality Control Board

North Coast Region



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Transmitted via email on July 22, 2003

Leslie Markham
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Dear Ms. Markham:

Subject: Non-concurrence with Second Review Team Chair's Recommendation of Approval for Timber Harvesting Plan 1-02-197 HUM

Second Review for Timber Harvesting Plan (THP) 1-02-197 HUM was postponed on July 10, 2003, and finally completed on July 17, 2003. North Coast Regional Water Quality Control Board (Regional Water Board) staff participated in both review team meetings for this THP, but did not participate in the pre-harvest inspection (PHI).

Regional Water Board staff disagree with the review team chair's recommendation for approval because key recommendations were not included in this THP. Our concerns regarding this THP's role in meeting the goals of the Water Quality Control Plan for the North Coast Region (Basin Plan), the goals of the Forest Practices Act, and the requirements of PALCO's Sustained Yield Plan (SYP) are explained below.

This THP Cannot Be Approved Because it Will Contribute To a Violation of Basin Plan Water Quality Objectives

The approval of this THP as proposed would be inconsistent with the Forest Practice Rules (FPRs). FPR 898.2 requires that "[t]he Director shall disapprove a plan as not conforming to the rules of the Board if any one of the following conditions exist: [¶] . . . [¶] (h) Implementation of the plan as proposed would cause a violation of any requirement of an applicable water quality control plan adopted or approved by the State Water Resources Control Board." The following discussion demonstrates that the approval of this THP would contribute to existing violations of water quality objectives in the Van Duzen River watershed. Thus, approval of this THP will violate FPR 898.2.

Regional Water Board staff believe that this THP will violate Prohibition #1 of the Action Plan for Logging, Construction, and Associated Activities in the Basin Plan. The prohibition states:

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“The discharge of soil, slit, bark, slash, sawdust, or other organic and earthen material from any logging, construction, or associated activity of whatever nature into any stream or watercourse in the basin in quantities deleterious to fish, wildlife, or other beneficial uses is prohibited.”

This THP proposes to discharge a total of 27 yd³ of sediment due to surface erosion from harvest units plus 1 yd³ of sediment from roads for one year. However, considering that the next time the thinned stands will be harvested commercially is twenty years from the completion of this THP, an appropriate estimate of sediment discharge is 47 yd³ (the sum of 27 yd³ from the harvest units and 1 yd³ per year for twenty years)¹. This estimate should be considered a minimum because it assumes that all mitigations will work perfectly, an assumption whose validity has not been demonstrated. Although “sediment savings” sites will reduce the potential for sediment inputs from other locations in the watershed, they will not prevent sediment from this THP from reaching receiving waters. Therefore, the sediment delivered from this plan adds to, in deleterious amounts, the cumulative impacts in the Van Duzen River.

CDF contends that the sediment production of harvest units is offset with appropriate sediment savings sites. However, as noted above, the sediment production estimate in the THP is only for surface erosion from harvest units and one year’s worth of erosion from the roads. This ignores sediment delivery from known sources other than surface erosion as well as from the sediment savings sites themselves. Madej (2001) found that watercourse crossing removal and road decommissioning does contribute sediment to watercourses at an average of 50 m³ per site. Recent findings during PHIs in the Van Duzen River watershed lend support to the argument that not all mitigations work completely as intended (e.g., See Regional Water Board PHI report for THP 1-01-387 HUM). Furthermore, during recent discussions regarding Regional Water Board Cleanup and Abatement Order No. R1-2002-0085, PALCO staff reported that recently “stormproofed” road sites in the Elk River watershed have not performed as well as initially anticipated.

Another disadvantage of relying solely on sediment savings sites to mitigate the impacts of this THP is that the sediment produced and sediment saved will not achieve balance within the same timeframe. The majority of sediment produced by plan operations is typically discharged during the first rainy periods following those operations. However, sediment from the savings sites may not be delivered until years after the operations, if ever. Additionally, many sediment savings sites are located in different reaches, or even different watersheds, than the sediment-producing timber operations (e.g., See Regional Water Board PHI report for 1-02-069 HUM). Because of these limitations, offsetting mitigation (such as the sediment savings strategy proposed) alone cannot provide adequate protection for water quality. Activity limitations (i.e., reduced harvest rates), in conjunction with best management practices and offsetting mitigation, are necessary to prevent further damage to the beneficial uses of water in the Van Duzen River watershed.

¹ Estimates are based on results obtained from the US Forest Service Water Erosion Prediction Project (WEPP) – a numerical model. The WEPP model predicts sediment discharge due to surface erosion from timber harvest units and appurtenant roads. The WEPP model does not account for sediment discharge from other sources, such as mass wasting and hydrologically induced sediment inputs.



In addition to water quality objectives and action plan prohibitions, the Basin Plan contains an additional provision calling for the restriction of “controllable factors.” Section 3 of the Basin Plan specifically states: “[w]hen other factors result in the degradation of water quality beyond the levels or limits established herein as water quality objectives, then controllable factors shall not cause further degradation of water quality.” Controllable factors include silvicultural, yarding, and site preparation methods; road construction, maintenance, and abandonment activities; and rate of harvest. The activities proposed in this plan (e.g., tree removal, ground based yarding, and ~8,130 ft of new road construction), and the high rate of harvest in the Van Duzen River watershed are both controllable factors that will cause further degradation of water quality. Thus, this THP fails to satisfy the “controllable factors” provision of the Basin Plan.

CDF Must Amend the SYP Before It Considers Whether To Approve This THP

While Regional Water Board staff did not attend the PHI for this THP, the following recommendation has been made in numerous PHI reports for recent THPs in the Van Duzen River watershed, and was reiterated during the second review team meetings for this THP. This recommendation has not been resolved prior to the review team chair’s recommendation for THP approval:

‘Prior to THP approval, an amendment to the landowner’s SYP shall be submitted to and approved by the CDF Director following the same procedures as for approving an SYP initially, per 14 CCR 1091.13.’

In light of the Regional Water Board staff’s ongoing disagreement with the recommendation for approval for plans in the Van Duzen River watershed under the SYP, this letter reiterates the rationale for our position. As explained in detail below, this THP triggers the need to amend the SYP. Further, the approval of this THP, as presently constituted, would exacerbate noncompliance with water quality objectives in the Regional Water Board’s water quality control plan and would therefore violate FPR 898.2 (h).

As we have stated in numerous past PHI reports and letters of non-concurrence, a THP that substantially deviates from a SYP must be preceded by a SYP amendment except in an emergency. The governing section of the FPRs provides:

“1091.13 Amendments

Except under emergency circumstances, substantial deviations from the SYP shall not be undertaken in the THPs unless an amendment has been submitted to and approved by the Director following the same procedures as for approving an SYP initially. No THPs may be approved which rely upon a substantial deviation proposed in an amendment to a SYP until such a deviation is approved by the Director.

- (a) Substantial Deviations. For purposes of the sustained timber production portion of any SYP, any deviation from the average harvesting projections in any ten-year period which exceeds ten percent, including a deviation caused by changes of ownership and



catastrophic events, shall be considered a substantial deviation. For purposes of watershed and fish and wildlife issues, any deviation from the plan which could result in a significant change in timber operations and could result in significant adverse effects to watershed or fish and wildlife values shall be considered a substantial deviation.

- (b) Minor deviations shall be reported to the Director immediately in writing but shall not require amendment of the plan.”

Section 1091.13(a) provides a two-part test for determining whether a deviation from a SYP is substantial. The first prong provides that any deviation from average harvesting projections in any ten-year period that exceeds 10 percent is substantial. As Dean Lucke of CDF explained in a December 5, 2001 letter (Lucke Letter), the sustained timber production portion of the SYP sets harvest targets for PALCO’s entire ownership and does not take into account watershed-specific changes in harvest volume. This THP would not cause 10-year projected harvest volumes over PALCO’s entire ownership to deviate more than 10 percent. Thus, we agree with CDF that this THP does not amount to a substantial deviation under the harvest volume measure.

Instead of looking to harvest volume for determining whether a deviation is substantial, the second prong of section 1091.13(a) focuses on the resulting environmental effects. Under that prong, a deviation is substantial if it could: (1) result in a “significant change in timber operations” that (2) could result in significant adverse effects on watershed or fish and wildlife values. As explained in detail below, this THP amounts to a substantial deviation under this test.

Significant Change in Timber Operations

Regional Water Board staff previously asserted that the extremely high rate of timber harvest in the Van Duzen River watershed, and the disproportionate use of clearcutting among recently approved Van Duzen THPs amounts to a significant change in timber operations. The Lucke Letter responded to this concern and others. Notably, the Lucke Letter does not dispute that the THPs would amount to a significant change in timber operations. We therefore assume that CDF agrees with the Regional Water Board on this point. Regardless, we have reiterated below the basis for our argument.

A SYP must include certain key information as required by FPRs section 1091.6(c)(2), which states, in relevant part:

‘For the initial ten year period, for all planning watersheds in which harvesting will take place, descriptions shall include as appropriate: [¶] . . . [¶] (B) Estimate of the SYP submitter’ s ownership acres of forest types to be harvested by silvicultural method and yarding method, and the location of submitter’ s approved and submitted THPs and presently projected future timber operations.’”

For PALCO’s SYP, this requirement was satisfied by providing the number of acres harvested by silvicultural methods in the Watershed Assessment Areas (WAAs). For the period from 1999 to



2009, the SYP calls for harvesting of 4,437 acres in the Van Duzen WAA, 802 of them by commercial thinning. Taken over 10 years, then, harvest acreage in the Van Duzen WAA should average 443.7 acres per year, 80.2 by commercial thinning. Based on those rates, PALCO should at this point (4.4 years into the SYP) have harvested 1,952 acres, 353 by commercial thinning. Instead, approximately 5,011 acres have been approved for harvest on lands covered under the SYP, 1,553 by commercial thinning (modified from THP 1-02-197 HUM). Those harvest rates significantly exceed the SYP projections, particularly for commercial thinning. More fundamentally, approval of this THP would allow more thinning in the Van Duzen WAA than projected in the SYP for the entire ten-year period. The approval of this THP, which proposes another 139 acres of commercial thinning, would bring total thinning in the Van Duzen WAA to 1,692 acres. That amount exceeds the acreage planned for commercial thinning in the SYP projections by 890 acres, or approximately 110%.²

Thus, the approval of this THP would continue a trend away from the proportion of timber harvesting methodology required by the SYP. At this point in the SYP, PALCO has been approved to harvest 751 more acres by commercial thinning than projected by the SYP, an exceedance of 94%. This THP would do more than exacerbate that trend. It would allow further timber harvest on more acreage in the Van Duzen WAA than was supposed to occur by 2009. This drastic shift in harvest rate (not to mention the disproportionate use of clearcutting and commercial thinning overall) constitutes a significant change in the timber operations contemplated by the SYP. Attachment A to this letter provides the specific data from which the numbers presented above were derived.

Significant Adverse Effects on Watershed Values

Regional Water Board staff previously asserted that the significant change in timber operations proposed by Van Duzen THPs that exceeded harvest rate projections threatens to cause significant adverse effects on Van Duzen River watershed values. Mr. Lucke argues that the thresholds of significance applicable to the SYP do not support that conclusion:

“The Palco SYP has associated with it an FEIS/EIR and a HCP. The FEIS/EIR has established ‘Thresholds of Significance’ for both aquatic and terrestrial species. Discussions with the signatory agencies to the HCP indicate that the current level of harvest does not constitute a significant adverse effect to watershed or wildlife values provided the measures of 6.11.2.1 of the HCP are complied with” (Lucke Letter, p. 2.)

For several reasons, Mr. Lucke is incorrect.

² Notably, there are additional PALCO THPs undergoing review that will exacerbate the amount of commercial thinning in the Van Duzen WAA. These THPs would add 392 acres of thinning, which, if approved, would bring the total commercially thinned area in the Van Duzen WAA to 2,084 acres. With that additional acreage, PALCO will have exceeded the thinned area allowed by the SYP by 1,282 acres, or 160%.



First, Mr. Lucke cites discussions with “signatory agencies to the HCP” as a basis for concluding that impacts of the THPs are less than significant. He thus implies that these agencies possess plenary authority to determine the significance of timber harvesting impacts. To the contrary, the Management Agency Agreement between the State Water Resources Control Board (State Water Board), Board of Forestry and CDF (MAA) provides a special role for the State and Regional Water Boards in reviewing the effects of silvicultural activities on nonfederal lands:

“The [State] Water [Resources Control] Board and the Regional Water Quality Control Boards . . . have the authority and responsibility, pursuant to the State Porter-Cologne Act and the Federal Clean Water Act (as amended), to promulgate Water Quality Management (WQM) plans and water quality control plans (Basin Plans) which set forth objectives for restoring, enhancing, and maintaining the quality and beneficial uses of the State’s waters, to promulgate regulations and policies to attain these objectives, and to administer these regulations and policies to ensure that waste discharges, including those from silvicultural activities, do not degrade the quality and beneficial uses of the State’s waters.” (MAA, p. 1.)

The undisclosed discussions with HCP signatory agencies cited by Mr. Lucke may support CDF’s conclusion that effects on wildlife and fish values are insignificant. However, the determination of whether watershed values could be significantly affected is, per the MAA, the province of the Regional Water Board.

Second, Mr. Lucke’s citation to the thresholds of significance applicable to this determination is incomplete. In addition to the thresholds he alludes to for “aquatic and terrestrial species,” the FEIS/EIR identifies thresholds for water quality:

“The effects on water quality will be evaluated based upon the likelihood that land management parameters would exceed thresholds of significance for different water quality objectives. The thresholds of significance for water quality objectives set forth by the [Regional Water Board] Basin Plan Several, but not all, of the water quality objectives would be affected by the management of PALCO lands. These include temperature, dissolved oxygen, watercolor, sediment, turbidity, floating material, settleable material, biostimulatory substances, pesticides/herbicides, and fecal coliform.

The Basin Plan states that when other factors result in the degradation of water quality beyond the levels or limits established by the NCRWQCB, then controllable factors shall not cause further degradation of water quality. Controllable water quality factors are those actions or conditions, or circumstances resulting from management activities that may influence the quality of the waters of the state and may be reasonably controlled. The controllable management activities that affect the water quality objectives of concern include timber harvest methods, maintenance and construction of roads, burning, grazing, and herbicide application.”



Thus, as the above thresholds demonstrate, the appropriate focus for determining whether effects on watershed values are significant is the effects on water quality objectives and beneficial uses.

Mr. Lucke states “that the current level of harvest does not constitute a significant adverse effect to watershed or wild life values provided the measures of 6.11.2.1 of the HCP are complied with.” Section 6.11 of the HCP prescribes measures to conserve habitat diversity and structural components. Section 6.11.2.1 describes minimal seral stage distributions for each hydrologic unit. Clearly, this section is not designed to protect watershed values and therefore it is not appropriate to use this section to determine significant effects on water quality.

Bill Snyder of CDF explained in a December 19, 2001 letter that “the triggering mechanism developed to deal with watershed impacts is linked to calculation of a Disturbance Index (DI) value... The DI is the threshold which the Department considers critical in terms of requiring changes in silviculture or yarding systems.” However, the DI is not a water quality objective, nor is it protective of the beneficial uses of water. The DI was tested to determine if the DI could assess watershed impairment by seeing if the DI was correlated with percent fines (Draft HCP/SYP). Percent fines is an important habitat indicator in which the percentage of fine grained sediments has been correlated with reduced salmonid embryo survival and fry emergence (Chapman, 1988; Reiser and White, 1988; Young et al., 1991). Therefore, percent fines is used as an indicator to determine the health of a watershed (US EPA, 1999). The DI correlation with percent fines <0.85 mm and <4.7 mm had a coefficient of determination (R^2) values of 0.01 and 0.006 respectively (Draft HCP/SYP). The very low R^2 values indicate a strong non-correlation between the DI and sediment impacts. In other words, the DI can not be used to determine significant adverse watershed impacts. Although minor changes were made to the DI in the approved HCP, these changes did not address the need for calibrating the DI so that it could be used as an indicator of sediment impacts. Nevertheless, once again, the appropriate focus for determining whether effects on watershed values are significant is the effects on water quality objectives and beneficial uses.

Third, based on the appropriate thresholds, the effects of this THP on watershed values is significant. Applicable water quality objectives include suspended material, settleable material, and sediment. The Van Duzen River watershed appears on the Clean Water Act section 303(d) list as sediment impaired. That means that on a watershed wide basis, the Van Duzen River already does not meet water quality objectives for sediment. Any further sediment delivery due to timber harvesting activities would, therefore, exacerbate that exceedance and would impede the recovery of the watershed.

In response to previous letters of non-concurrence for THPs in the Van Duzen WAA, Mr. Snyder noted various provisions of the Forest Practice Rules that are intended to limit sediment delivery. Mr. Snyder noted that “the rules are designed to describe a set of best management practices which in conjunction with the THP review process will adequately deal with non-point sediment sources in compliance with the Basin Plan.” First, it should be noted that the FPRs have not been certified by the U.S. EPA as Best Management Practices because, in part, their effectiveness has



not been tested and proven through water quality monitoring. Second, two recent reviews of the FPRs (Scientific Review Panel (SRP), 1999 and University of California Committee on



Cumulative Watershed Effects (UC CWE), 2001) both criticize the rules for being inadequate in addressing cumulative effects, in part, because the rules do not address an appropriate activity level (i.e. rate of harvest). Furthermore, the California Senate Office of Research (2002) report states the rules fail to adequately address water quality and endangered species. The SYP is intended to limit activity levels (i.e. rate of harvest) to a sustainable level of harvest.

Mr. Snyder also cites other provisions of the HCP that are designed to reduce sediment delivery beyond the requirements of the FPRs. These include the avoidance of Mass Wasting Areas of Concern, enhanced riparian protection measures, additional limits on winter operations, sediment assessments, stormproofing of roads and landings, road maintenance, and wet weather road use restrictions. Similarly, the HCP requires instream effectiveness monitoring of the interim prescriptions. To date, PALCO has not conducted instream effectiveness monitoring that could demonstrate the effectiveness of the HCP interim prescriptions. Furthermore, sediment mitigations, as noted above, are inaccurate and misleading.

Activities proposed under this THP will result in sediment discharges that violate Prohibition #1 of the Action Plan for Logging, Construction, and Associated Activities. The current rate of timber harvest proposed in the Van Duzen River watershed is likely to result in an adverse cumulative impact due to the sediment discharges from the numerous active plans throughout the watershed occurring over a short period of time. We believe that a strategy to avoid and minimize further sediment discharges rather than to attempt to mitigate new discharges is necessary in this watershed at this time. Therefore, we reiterate our recommendation to amend the SYP prior to THP approval.

In conclusion, the Regional Water Board staff acknowledge that the HCP has many prescriptions that are more protective than the FPRs. Sediment delivered under these practices will likely be less than that delivered under practices that would be allowed under the FPRs. However, the FPRs call for an amendment to the SYP when a THP proposes a substantial deviation from the SYP. The above arguments show that this THP proposes a substantial deviation. Amending the SYP would allow an opportunity to clarify the potential errors in SYP projections, evaluate the status of watershed improvements, allow for further comment and review, and provide additional mitigations. It is clear that the FPRs require this evaluation prior to approval of more THPs.

The above recommendations and comments are provided pursuant to the statutory authority contained in the Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.), the Water Quality Control Plan for the North Coast Region (Basin Plan), and the Z'Berg Nejedly Forest Practice Act (California Public Resources Code section 1037.5).

We trust the information presented herein provides guidance that will be helpful in protecting the beneficial uses of waters of the State of California. Please include this letter in the official files for THP 1-02-197 HUM. If you have any questions, please feel free to contact me at (707) 576-2689.



Respectfully submitted,

Original signed by

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cc: Sheryl Freeman, Staff Counsel
Erik Spiess, Staff Counsel

References:

California Forest Practice Rules, 2003.

Chapman, D.W. 1988. Critical review of variables used to define effects of fines in redds of large salmonids. Transactions of the American Fisheries Society 117: 1-21.

Lucke, Dean. December 5, 2001 letter concerning THPs in the review process for the Van Duzen WAA. California Department of Forestry and Fire Protection.

Madej, M.A. 2002. Erosion and sediment delivery following removal of forest roads. Earth Surface Processes and Landforms 26: 175-190.

Management Agency Agreement between the Water Resources Control Board, the Board of Forestry, and the Department of Forestry and Fire Protection, State of California. 1988.

North Coast Regional Water Quality Control Board, Water Quality Control Plan (Basin Plan), including 2002 amendments.

North Coast Regional Water Quality Control Board. Pre-harvest inspection reports for Timber Harvesting Plans 1-01-387 HUM (February 21, 2002) and 1-02-269 HUM (January 6 & 15, 2003).

Reiser, D.W., and R.G. White. 1988. Effects of two sediment size-classes on survival of steelhead and chinook salmon eggs. North American Journal of Fisheries Management 8: 432-437.

Scientific Review Panel. June 1999. *Report of the Scientific Review Panel on California Forest Practice Rules and Salmonid Habitat*. Prepared for The Resources Agency of Californian and the National Marine Fisheries Service.



Snyder, William. December 19, 2001 letter concerning THPs in the review process for the Van Duzen WAA. California Department of Forestry and Fire Protection.

Senate Office of Research. 2002. FYI: Timber Harvesting and Water Quality. California Senate Office of Research. <http://www.sen.ca.gov/sor/>

Timber Harvesting Plan 1-02-197 HUM.

University of California Committee on Cumulative Watershed Effects. June 2001. *A Scientific Basis for the Prediction of Cumulative Watershed Effects*. University of California Wildland Resource Center Report No. 46.

U.S. Environmental Protection Agency, Region IX. 1999. Letter from David Farrel containing the EPA's FEIS comments for the Headwaters Forest Acquisition. February 22, 1999.

United States Fish and Wildlife Service and California Department of Forestry and Fire Protection. 1999. Final Environmental Impact Statement/ Environmental Impact Report and Habitat Conservation Plan/ Sustained Yield Plan for the Headwaters Forest Project.

Young, M.K., W.A. Hubert, and T.A. Wesche. 1991. Selection of measures of substrate composition to estimate survival to emergence of salmonids and to detect changes in stream substrates. *North American Journal of Fisheries Management* 11: 339-346.

